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037
No. 14626

United States
Court of Appeals
For the Ninth Circuit.

See also
3030
Vol. 3031
and 3033

JESSE E. HALL, WEATHERFORD OIL TOOL COMPANY, INC., a Corporation; WEATHERFORD SPRING COMPANY OF VENEZUELA, C.A., a Corporation; HALL DEVELOPMENT COMPANY, C.A., a Corporation; WEATHERFORD, LTD., a Corporation; WEATHERFORD INTERNACIONAL, S.A., DE CV., a Corporation; NEVADA LEASEHOLD CORPORATION, a Corporation; PARKER INDUSTRIAL PRODUCTS, INC., a Corporation,

Appellants,

vs.

KENNETH A. WRIGHT and B & W, INC., a Corporation,

Appellees.

KENNETH A. WRIGHT and B & W, INC., a Corporation,

Appellants,

vs.

JESSE E. HALL, WEATHERFORD OIL TOOL COMPANY, INC., a Corporation, et al.,

Appellees,

Transcript of Record
In Nine Volumes

Volume IV
(Pages 1509 to 2000)

Appeals from the United States District Court for the
Southern District of California,
Central Division.

FILED

NOV 12 1955

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For the Ninth Circuit.**

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DEPOSITION OF LAURENCE C. KELLY

a witness produced on behalf of the Petitioner, have been first duly sworn to testify the truth, the whole truth and nothing but the truth, upon oral interrogatories, deposed and testified as follows:

Direct Examination

By Mr. Lyon:

Q.1: Will you state your name?

A. Laurence C. Kelly.

Q.2: Where do you reside, Mr. Kelly?

A. Brentwood, 201 Homewood Road, Los Angeles 49.

Q.3: What is your occupation?

A. Producer of oil.

Q.4: Are you connected with any company?

A. Yes, the L. C. Kelly and M. V. Kelly partnership which took over the assets and liabilities of Thomas Kelly & Sons, Incorporated. [1822-523]

Q.5: Were you connected with Thomas Kelly & Sons, Incorporated, before it was taken over by the partnership? A. I was president of it.

Q.6: That change of ownership is something that has occurred since march of 1951?

A. Yes, it just occurred a little over a year ago, a year and a half ago.

Q.7: Did Thomas Kelly & Sons drill a well in 1939 at the Athens-Rosecrans Field in Los Angeles County?

A. We called it Rosecrans Field. We didn't put "Athens" to it. Athens was further in towards town, and we just called it Rosecrans Field. We did, we

(Deposition of Laurence C. Kelly.)

drilled McMillan No. 1 at Rosecrans in the latter part of 1939.

Q.8: In the drilling of that well did you use any unusual device or devices that were unusual at that time on the casing preparatory to cementing?

A. Yes, it was our first experience in using scratchers on the casing.

Q.9: From whom did you obtain those scratchers?

A. From B & W Company, that is, Wright and Barkis.

Q.10: Did you purchase those scratchers?

A. We did.

Q.11: Have you any canceled check or other written evidence of your payment for those scratchers?

A. Yes. I was asked to give proof of that purchase, so our records were searched, and I found a canceled check [1822-524] that I put in my wallet. Here it is—I am sure I put it there. There is the canceled check.

Q.12: You have produced Thomas Kelly & Sons, Inc.'s, check No. 5059, dated February 5, 1940, in the sum of \$174.13, made payable to B & W, Inc. How do you identify that particular check as being the check that was paid in payment of the scratchers used upon the McMillan Community No. 1 Well?

A. May I see it? First, I know the form of the check and second, I can identify my signature and that of my brother.

Q.13: Had you made any purchases from B & W

(Deposition of Laurence C. Kelly.)

at any date earlier than this? A. No.

Q.14: How long was it after this check that you made any other purchases from B & W, if at all?

A. I don't ever recall making any other purchase.

Mr. Lyon: I will ask that this check as produced by the witness be received in evidence as Petitioner's Exhibit N, and I presume that Mr. Kelly would like to have his records complete, so I will offer, if it is satisfactory to the attorneys for the Applicant, to photostat both sides of this check, together with the Clearing House perforations, and substitute these photostats for the original, so that the original check may be returned to Mr. Kelly.

Mr. Scofield: You will furnish us with a copy of the check? [1822-525]

Mr. Lyon: Yes. Do you want to see it?

(The check referred to was marked by the Notary Public as Petitioner's Exhibit N, photostatic copy of which is made a part of this deposition.)

Q.15: (By Mr. Lyon): You state, Mr. Kelly, that this check, Exhibit N, was in payment of the scratchers delivered to the Community No. 1 Well, and a B & W invoice for those scratchers is identified in evidence in these proceedings as Exhibit K to the affidavit of Mr. Bruce Barkis of May 30, 1951, and it shows the charge for the scratchers, including a sales tax, was \$177.68.

(Deposition of Laurence C. Kelly.)

A. Yes, I found that difference, and it was a 2 per cent cash discount that made the difference.

Q.16: So you took a 2 per cent cash discount from the invoice amount and that represents the difference?

A. That is correct. You will find by working that out it is exactly right.

Q.17: You have stated that B & W scratchers were used upon this well. Were you present at the time that the casing was run in that well?

A. I was there from the first length of casing, the first joint of casing was run until the casing was landed.

Q.18: When was that?

A. December 30 and 31, 1939.

Q.19: Who else was present at that [1822-526] time?

A. Our superintendent, Earl Sweetzer, was continuously present.

Q.20: Besides the crew were there any other people present?

A. My brother was there part of the time, but not all the time.

Q.21: Were any representatives of B & W there?

A. Yes, Kenneth Wright.

Q.22: Was Bruce Barkis there at any time?

A. I don't know, I can't remember that, but I know that Kenneth Wright was there continuously.

Q.23: That is, he was there practically the entire time that you were? A. I believe so, yes.

Q.24: These scratchers that were run on this cas-

(Deposition of Laurence C. Kelly.)

ing, were they like any of the scratchers that are on the table here before you?

A. Yes, it could be like either one of them. I could not identify them.

Q.25: That is, they were either like Exhibit 2 or Exhibit A, those being the ones that are there on the table?

A. It could be one or the other. I couldn't be sure.

Q.26: Were you there when these scratchers were mounted on the casing?

A. I was. [1822-527]

Q.27: How were they mounted on the casing?

A. They were slipped on the casing, and little stops were welded to give them an up and down vertical action of, oh, a few inches, 12, 15 or 18 inches.

Q.28: Were they attached to the casing in any other way? A. No.

Q.29: Were they or were they not free to rotate upon the casing?

A. If they were free to rise, to rise vertically and fall vertically, they certainly were free to rotate.

Q.30: State whether or not at any time you observed anybody spin the scratchers upon the casing?

A. I did not?

Q.31: You don't recall that? A. No.

Q.32: Approximately how many scratchers were run on that casing?

A. Well, the bill states it there. I think there were twenty-two or three or four, something like that.

(Deposition of Laurence C. Kelly.)

Q.33: Where were they run on the casing with respect to its length?

A. I believe they were run on the first joints that went in.

Q.34: That is, the bottom joints? A. Yes.

Q.35: How deep was that well? [1822-528]

A. I haven't looked that up for a long time. I will have to rely on my memory. I can hit it pretty close.

Q.36: Let me see the log book.

A. I would think we set casing around 7500 feet, and we had open hole for a length of 200 feet below that. The total depth of the well would be somewhere between seventy-six and seventy-seven hundred, would be my memory.

Q.37: I hand you a log book, and ask you if you can identify this, Mr. Kelly?

A. I can identify it only by the fact it is the form we use, and I will refer to it and see whether I know any names here. Here is a driller by the name of Sharkey. I knew him, and Sam Patterson was working, I remember him. Langenbeck was a driller, I remember him. I remember a driller by the name of E. F. Edmonds here, and probably—I see the name Rutherford. I remember him as a welder. I guess that should be sufficient, shouldn't it?

Q.38: This log says it is a "Daily Driller's Report of Thomas Kelly & Sons Community No. 1 Well." A. "McMillan Community No. 1."

Q.39: This log book, was that part of the records of Thomas Kelly & Sons?

(Deposition of Laurence C. Kelly.)

A. Oh, yes, we always kept a very accurate log book.

Q.40: I note the depth of this well, as stated in this log book, is recorded throughout the tours of December 30 and 31, 1939, as being drilled to a certain depth. [1822-529]

A. I hit it pretty close, didn't I? It shows here 7693. I hadn't looked at that since the day the well came in.

Mr. Scofield: Is that the 30th, 31st of December?

The Witness: That is the 30th date that I am looking at, that gives the depth at 7693. There would be no further depth after this; that is the T. D., total depth.

Q.41: (By Mr. Lyon): Do you recall now near to the bottom of the well this casing carrying the scratchers was ultimately dropped to?

A. Well, the total depth was 7693, as shown there, and my recollection is that we had 200 feet of zone open for production, and that our setting point was approximately 200 feet less than the total depth. That would make it 7493, approximately 180 to 200 feet of formation left open for production, and therefore the setting point of the casing would be approximately 200 feet less than the total depth, making it 7493, or thereabouts.

Q.42: Did you encounter in the lowering of the casing with the scratchers on it in the well any difficulty in lowering the casing?

A. I recollect the casing stuck, I think it was three times. We could not get circulation, we could

(Deposition of Laurence C. Kelly.)

not get the casing up and down, our pumps would not move, would not give it circulation. We just could not move the rotary mud.

Q.43: Would that condition of operation be reflected in any way in your log book? [1822-530]

A. I think it would.

Q.44: Will you review the log book, and see if you can ascertain where or when or at what depth that difficulty was encountered?

A. It certainly didn't make the point of it it should have here, because we had great difficulty. It says, "Cleaning out and circulating." That is blurred there. It looks like "64 stands, reaming 6969 to 7400," and——

Q.45: What is this circulating?

A. I definitely can state this, gentlemen, that our pipe was stuck at least. I say three times, at least twice we could not move it, and we brought out a Perkins cement truck which would give us higher pressures than our ordinary mud pump, which ordinarily operated at 750 pounds per square inch. We put 2600 pounds per square inch on the rotary pump in order to free the casing and regain circulation, and that we did on two or three occasions before we succeeded in freeing the casing, getting circulation, and landing it where we planned to land it originally.

Q.46: Do you recall after the first recirculation that you periodically recirculated on lowering the casing into the well to avoid further sticking in the well?

A. Yes, we did, yes.

(Deposition of Laurence C. Kelly.)

Q.47: You did that? A. Yes.

Q.48: And continued that practice until you landed [1822-531] the casing to the depth that you wanted it?

A. Except for what I said, we got stuck either—I think it was three times.

Q.49: You got stuck three times? A. Yes.

Q.50: Do you know how deep the bottom of the casing was when you encountered the first sticking?

A. You are asking me questions that take me back 13-odd years. I will have to do a little thinking about that. My recollection is we were first stuck nearly 2,000 feet off bottom, which would put it at about 5600 feet, and then we were able to run another thousand feet or thereabouts of casing and got stuck again, and then the third time, I don't recall the depth at which it was stuck.

Q.51: Was the well ultimately cemented?

A. It was.

Q. 52: Did the cement job accomplish a successful water shut-off? A. I believe so, yes.

Q.53: Was the well a producer?

A. Yes, sir, it produced initial production about 250 barrels a day of clean oil. I am quite sure we didn't have a recent job on that. We did on some of them, but I am quite sure that our first jobs caught on the cement.

Mr. Scofield: Would you read that answer, please?

(Answer was read by the [1822-532] reporter.)

Mr. Lyon: That is all. You may cross-examine.

(Deposition of Laurence C. Kelly.)

Cross-Examination

By Mr. Scofield:

XQ.1: Mr. Kelly, did you have anything to do with the drilling of the well yourself? That is, you were the owner of the well, I understood?

A. Yes.

XQ.2: Did you actually take a part in the drilling?

A. I was there everyday in a supervisory capacity.

XQ.3: And you had some experience in oil well drilling?

A. Oh, yes, many wells before that.

XQ.4: I understand that this well was finally drilled to about 7693 feet? A. Yes.

XQ.5: Was there set in this particular well a surface string? A. Yes.

XQ.6: What was the size of it, and if you want to refer to your log, why, there is no objection to doing it.

A. I think $11\frac{3}{8}$, I think, but we will go back. We changed and put different sized surface strings, but I think it was $11\frac{3}{8}$. I will go back to the start here. The first depth I can pick up upon the log book is—wait a minute, oh, I missed something here. I can check it. $13\frac{3}{8}$, it was. We set a thousand feet of $13\frac{3}{8}$. We used different [1822-533] sizes, so that led to my slight confusion there.

XQ.7: Did you in this well use a circulation string at all? A. A circulation string?

(Deposition of Laurence C. Kelly.)

XQ.8: Yes.

A. I don't quite understand what that is, sir.

XQ.9: Was there any string pipe set outside of this surface string at all?

A. Was there any set outside of this?

XQ.10: Yes, or inside of it.

A. Well, we set a thousand feet of $13\frac{3}{8}$. There was no other casing other than this $6\frac{5}{8}$ we had under discussion with the scratchers on it. Does that answer your question?

XQ.11: What do you term the $6\frac{5}{8}$ out here? Is it a water string or an oil string?

A. Well, we call it a water string.

XQ.12: You call it a water string?

A. Yes.

XQ.13: And what was the length of this water string?

A. Well, it would be the length I gave there of 5693, less a couple of hundred feet of open formation.

Mr. Lyon: 7493.

The Witness: 7493, the length of the casing.

XQ.14: (By Mr. Scofield): 7,493?

A. Approximately, yes. [1822-534]

XQ.15: So that it would be about 200 feet off bottom? A. That is right.

XQ.16: Do you know who in your company recommended the use of the scratchers on that particular well?

A. I had known Kenneth Wright for some

(Deposition of Laurence C. Kelly.)

years prior to this, and he came to our office in the field and discussed the use of the scratchers with Earl Sweetzer, my brother and myself, and we were convinced by his arguments that we should use them.

XQ.17: So that the three of you, in conference with Mr. Wright, after discussing the matter, decided to use the scratchers?

A. That is right.

XQ. 18: I believe this invoice shows that there were 23 scratchers purchased?

A. I believe that is right, yes.

XQ.19: Do you know how many were actually used in the well?

A. Well, we are the type of people that believe in getting what we pay for. I think there were 23.

XQ.20: You think they were all used in the well? A. I definitely would say so.

XQ.21: You have indicated in your direct examination that they were on the lower joints. Will you clarify that a little for me? Just how many of the lower joints were they on? [1822-535]

A. I could not answer that question. I have forgotten what the spacing of them was. I could not answer that question.

XQ.22: Do you know how far apart they were spaced?

A. That is just what I say, I can't answer that question. I don't remember.

XQ.23: What type of pipe did you use on this water string? A. 6 $\frac{5}{8}$.

(Deposition of Laurence C. Kelly.)

XQ.24: I mean was the pipe new pipe——

A. No.

XQ.25: ——or old pipe?

A. No, some we had reclaimed from a well, but it was good pipe. It was API pipe.

XQ.26: Does your log indicate there whether or not these pipe sections were welded?

A. Our pipe sections welded?

XQ.27: Yes.

A. Oh, definitely not. They are all screwed.

XQ.28: These were all screwed?

A. Oh, yes, definitely, threaded.

XQ.29: Do you recall at this time, perhaps it is a little stretch of your memory, but do you recall at what time of day you began running this pipe? That might be indicated on the log, too.

A. I have quite a fair recollection that I arrived [1822-536] at the job a little earlier than 7:00, about 7:00 or 7:30, on December 30. Now, just——

XQ.30: In the morning or evening?

A. In the morning of December 30. Just at what time we actually started running the first joint I don't remember, but I purposed being there for the running of the first joint, and I stayed until the last joint went in.

XQ.31: So that you are pretty sure it was run some time during that day? A. Yes.

XQ.32: On December 30—— A. Yes.

XQ.33: ——or December 31?

A. Because it was during the night we got

(Deposition of Laurence C. Kelly.)

stuck, in the early hours of December 31, that we got stuck, is my memory.

XQ.34: Do you recall whether on the first occasion that the pipe stuck you were below the surface string?

A. Oh, yes. Yes, I stated that I thought our pipe first stuck around 5,600, and the surface casing was set at a thousand feet.

XQ.35: You indicated, too, that the second time the pipe stuck was some thousand feet below that?

A. That is my memory, yes.

XQ.36: Do you recall whether you had any trouble at all in getting the pipe through the surface casing? [1822-537] A. No, none.

XQ.37: So all your difficulty was after the scratchers had gotten through the surface casing?

A. Yes.

XQ.38: Can you explain why the scratchers are not mentioned in this log?

A. No, I can't.

XQ.39: This was a most unusual thing, was it not, in your company history?

A. Indeed it was. It was the first time we ran them.

XQ.40: I assume that before you started drilling this well that you made a report to the Division of Oil and Gas?

A. We followed all the conventional regulations, yes.

XQ.41: Did you make out a report for the Division of Oil and Gas on this well?

(Deposition of Laurence C. Kelly.)

A. Undoubtedly. I did not personally. We always followed all the rules and regulations scrupulously.

XQ.42: I appreciate that. Would you, Mr. Kelly, give me a letter to the Division of Oil and Gas, so that I can obtain a copy of the report which you made to the Division of Oil and Gas in the State of California?

A. I definitely have no objection.

XQ.43: You can either give it to me through Mr. Lyon, or if you will send it to Mr. Subkow here I will give you his address.

A. If one will be prepared while I am here I will [1822-538] be glad to sign it.

XQ.44: I believe you have indicated that Mr. Earl Sweetzer was your superintendent?

A. That is correct.

XQ.45: How long had he been working for you in 1939? A. He came——

XQ.46: Or just a guess.

A. No, I can place it very definitely. He came to us when we first started in Venice in 1930, and he was with us continuously from thereafter up until this time.

XQ.47: So he had been with you at least nine years? A. That is right.

XQ.48: How long did he continue after 1939, do you recall that?

A. Yes, about three years, until we ceased drilling, and he was too valuable a man to keep on just

(Deposition of Laurence C. Kelly.)

production. We could not afford to pay him what he merited, so my son in the meantime had been trained by Sweetzer as a production man, so Earl found suitable work with Hurley Kelly, and my son took over the production matters.

XQ.49: Is Hurley Kelly a producing outfit?

A. Drilling and producing. No relation, the name "Kelly" is no relation. I believe he is still with them.

XQ.50: I believe you indicated also in your direct examination that this was the only well in which you used scratchers? [1822-539]

A. That is correct.

XQ.51: Did the sticking of the pipe have anything to do with your discontinuing the use of scratchers?

A. It could have. We also discontinued using the type of mud that we used in that well. We found there was too much sand and other matter, and that the water would fall out of it and cause trouble, too much water loss. So we, in drilling the next well, decided to do everything humanly possible to avoid getting our casing stuck again, and we were of the opinion, without having any evidence to that effect, we were of the opinion that the scratchers might have been contributory, so we changed our mud and watched our mud more carefully and did not use the scratchers.

XQ.52: Can you tell me from the log book or from recollection what the size of the hole was below the surface string?

(Deposition of Laurence C. Kelly.)

A. Well, I would say with 6 $\frac{5}{8}$ casing we probably used 8 $\frac{5}{8}$, possibly an 8 $\frac{5}{8}$ hole. That would be my recollection.

XQ.53: Would that be reflected in the log?

A. I would believe so. Do you want me to look it up?

XQ.54: I would like to have you check that, if you will.

A. "Size of hole 10 $\frac{5}{8}$." It was larger than I thought.

XQ.55: So the size of the hole was [1822-540] 10 $\frac{5}{8}$ — A. Yes.

XQ.56: —inches below the surface string?

A. That is right. We were playing it safe and made a good big hole.

XQ.57: Is there any indication on that log as to whether it was reamed at any place?

A. Oh, we were very, very careful in all holes ran. We never changed a stand pipe we didn't ream, ream up and down.

XQ.58: Where was it reamed, the whole length below the surface casing?

A. Every time we would change a joint of drill pipe, or we would ream for oh, probably two or three joints, from 60 to 90 feet, and then, our usual practice before setting casing we would ream the entire hole from top to bottom.

XQ.59: On this particular well it is indicated that it was reamed from about 6,960 feet to about 7,495 feet. Can you explain why you reamed that

(Deposition of Laurence C. Kelly.)

particular part of the hole and indicated it in the log, and not anywhere else?

A. Is that indicated in the log?

XQ.60: That is indicated on the log, yes. You might check it if there is any doubt in your mind.

Mr. Lyon: I think it should be checked.

The Witness: Following our usual practice——

Mr. Lyon: And also the statement it was not reamed [1822-541] anywhere else should be checked.

Q.61: (By Mr. Scofield): You might look at the log and see if what I say is correct, Mr. Kelly.

A. I will see if I can find it. I know that Sweetzer as a superintendent, was extremely strong for keeping the hole well reamed, and we were behind him on that. Well, here I find a case of reaming and pumping from 3,650 to 7,122.

XQ.62: 3,650 to, what was the second figure?

A. To 7,122. Now, then, some interim reaming here as we went along. I think I saw a point here. This is some of the interim reaming. Two stands, just as I told you, of casing was reamed, reamed from 6,620 to 60—blurred figure, 58. The two stands would be about 196 feet, 186 feet. Let us see if we can find some other reaming here. I can say, generally speaking, that our custom was to ream more than the average people did. Now, here I find the total depth of the well at this time was 5,406.

XQ.63: What was the size of the reamer in each case here?

A. We just reamed with the regular bit.

XQ.63-A: To the size of 10⁵/₈?

(Deposition of Laurence C. Kelly.)

A. Yes. Here I find where the total depth was 5,406, reamed and cleaned out to bottom, so that we reamed right along, and tried to keep the hole to full size at all times. [1822-542]

XQ.64: Did you use the same bit size all the way down?

A. Yes, whenever we would find a little extra wear on the side lugs of the bit it would indicate to us the hole was getting tight, and then we would go and ream that particular section.

XQ.65: Would you look at the end of this log and see what point in the history of the well it takes you?

A. The end of this log book here?

XQ.66: Yes.

A. The total depth 7,693, the driller records, "Standing cemented," and then that is just washing out boilers after that, and housekeeping.

XQ.67: Does that log show any of the cementing operation at all?

A. Yes, on the 4:00 o'clock tour on December 31, it records "Cemented at 7,485, with 650 sacks of Victor Oil Well Cement, cementing done by Perkins."

XQ.68: As I recall, this pipe was run to about 200 feet from the bottom.

A. Now we have an exact depth. It was cemented at 7,493.

XQ.69: So that was just about 200 feet off bottom?

A. Yes. That is what I said right along.

(Deposition of Laurence C. Kelly.)

XQ.70: Do you recall during the cementing operation whether the pipe was worked, reciprocated?

A. We always moved our pipe up and down at different [1822-543] points in the cementing operation.

XQ.71: Do you remember in this particular case? A. No, I don't.

XQ.72: You do not? A. No.

XQ.73: This particular pipe stuck three times pretty close to the bottom, did it not?

A. The first time it was over, it was approximately 2,000 feet from bottom the first time it stuck.

XQ.74: And the second and third at 1,000 feet——

A. I said 1,000 feet, approximately, by memory, but after that I don't remember just how far from bottom it was the third time.

XQ.75: What was the cut of the oil that was produced, do you recall?

A. Well, the well produced clean oil. I don't know what the original cut, when it first came on production, was, but it was a satisfactory job and it was clean oil, marketable oil, which is less than 3 per cent.

XQ.76: What is the gravity of the oil that is produced in that location?

A. I think the original gravity in that well was between thirty-one and thirty-two. That is usual there.

(Deposition of Laurence C. Kelly.)

XQ.77: What was the length of each of the pipe joints or pipe sections in this well?

A. I would say approximately 30 [1822-544] feet.

XQ.78: And you are sure they were screwed casing? A. Oh, definite.

XQ.79: Do you have any other record or log besides this on this particular well?

A. I would say, no.

XQ.80: Have you looked to see? A. No.

XQ.81: Would you look and see if you have?

A. I think it would be a waste of time. We just relied upon this Daily Driller's Report for any activity at the well, and I wouldn't know where to look.

XQ.82: Well, if you can find anything, would you let us know?

A. What do you have in mind?

XQ.83: I was just wondering whether or not there was any log that supplemented this to indicate what was done subsequent to what appears in this log here. There are no production tests here at all.

A. I would be quite sure we had no other record in connection with the drilling and landing of the casing or cementing other than this.

XQ.84: Did you have any production tests at all on the well?

A. We put it on production. I don't know what you mean by "production tests."

XQ.85: I thought the companies usually have a

(Deposition of Laurence C. Kelly.)

production [1822-545] log for a period of time after——

A. Oh, we would have the—we definitely would have the pumper's-gauger's report. Every four hours we took our gauges. We would have a report showing the production on the well every four hours for some months.

Mr. Scofield: I think then if you will give me this letter that is all I have to ask.

The Witness: All right.

Redirect Examination

By Mr. Lyon:

RDQ.1: Let me ask you this question, Mr. Kelly: You state that this casing was stuck three times?

A. I am sure twice, and the third I believe. That is what I stated here.

RDQ.2: The casing was freed, was it not, after it was stuck?

A. Oh, we landed it exactly where we had planned to originally.

RDQ.3: It was freed by what method?

A. By using the cement company's pumps, and putting on a pressure of 2,600 pounds per square inch.

RDQ.4: Was mud circulated during the time?

A. That is what we did with those pumps, we got the mud moving.

RDQ.5: You got the mud moving? [1822-546]

(Deposition of Laurence C. Kelly.)

A. And that freed the pipe.

RDQ.6: Were any scratchers run on any other size pipe in this well, to your knowledge, other than on the 6 $\frac{5}{8}$ inch casing?

A. Definitely not.

RDQ.7: You have stated the joint length of casing used was 30 feet. Do you definitely recollect it was not 40 feet?

A. No. I am combining my later knowledge of the casing in making that statement. It was older casing. It was only after that time that I remember of ever encountering casing in 40-foot plus lengths. I had had no experience with anything over that range up to this time.

RDQ.8: It was a No. 2 Range casing, then, as you recall?

A. I have forgotten what "No. 2" means.

RDQ.9: That is 30 feet.

A. That is what it is then. I have not drilled for 12 years. We finished four more wells there at Rosecrans, and then we stopped drilling.

Mr. Lyon: That is all, Mr. Kelly.

Recross-Examination

By Mr. Scofield:

RXQ.1: There is one question I neglected to ask you, [1822-547] Mr. Kelly, on cross-examination. You signed an affidavit in connection with this matter, did you not? A. I did, yes.

(Deposition of Laurence C. Kelly.)

RXQ.2: You also indicated on your direct examination you could not distinguish between either of these scratchers, that is, Exhibit A and Exhibit 2, which are before you on the table?

A. As to the type that went in our well, you mean?

RXQ.3: Yes, sir.

A. No, I could not say which type.

RXQ.4: Now, in your affidavit there is a statement here to the effect: "The scratchers included a ring having stiff wire whiskers extending from the ring, and the wire whiskers were bent sideways."

A. Yes, right.

RXQ.5: Do you recall that? A. I do.

RXQ.6: Then can you distinguish between the two scratchers which you have before you?

A. I would say I could not.

RXQ.7: Well, now, one of them is bent sideways, the other is not.

A. Isn't this sideways?

RXQ.8: Do you think that that is sideways?

A. To me both of them are sideways. [1822-548]

RXQ.9: To you both of them are sideways?

A. Yes, I could not change my phraseology on that.

Mr. Scofield: That is all. [1822-549]

* * *

DEPOSITION OF K. C. NAEGLE

a witness produced on behalf of the Petitioner, having been first duly sworn to testify the truth, the whole truth and nothing but the truth, upon oral interrogatories, deposed and testified as follows:

Direct Examination

By Mr. Lyon:

Q.1: Will you state your full name?

A. K. C. Naegle.

Q.2: What is your address?

A. 6110 Myrtle, Long Beach.

Q.3: What is your occupation?

A. Oil field worker and mechanic.

Q.4: How long have you been working in the oil fields? A. Almost 16 years.

Q.5: For whom were you working in 1939?

A. Thomas Kelly & Sons.

Q.6: How long did you work for Thomas Kelly & Sons?

A. Oh, when did I quit there? I don't remember exactly, it must have been in—'37, the last of '37 until 1940—I am going to say '45. I might have a year or two of a difference there.

Q.7: You mean you worked for them between two dates? A. Yes, sir.

Mr. Scofield: 1937 to 1945. [1822-554]

The Witness: 1937 to 1945, yes. I worked for them for about eight years. There may be a little variation in there. I can't remember it. I didn't check up on it.

Q.8: (By Mr. Lyon): I hand you a page of a

(Deposition of K. C. Naegle.)

book which has been marked Petitioner's Exhibit C, and I will ask you if after the printed letters "RH" that is your signature?

A. Yes, that is my writing.

Q.9: What is that writing?

A. "K. C. Naegle."

Q.10: Did you ever work on the Thomas Kelly & Sons McMillan No. 1 Well, on a community lease in the Rosecrans Field? A. Yes.

Q.11: When?

A. Well, when it first started until they finished it, and they finished just about Christmas time or—New Year's time, rather.

Q.12: Of what year? A. In '39.

Q.13: That is, finished somewhere, I take it from your answer, between Christmas and the first of the year? A. Yes.

Q.14: In 1939?

A. Yes, I worked on it just before New Year's. I remember just before New Year's. I happened to be [1822-555] off the next day for New Year's.

Q.15: I am trying to get rid of the discrepancy between New Year's of 1940 and the end of the year 1939. Now, was that the period of time you were talking about?

A. Yes, I worked between 1939.

Q.16: Do you recall any particular device having been used in that well?

A. What do you mean by that?

Q.17: Any particular tool or structure?

A. Nothing more than what—you mean the

(Deposition of K. C. Naegle.)

regular tools that we used in drilling a well or in the—well, what wells, the casing and things?

Q.18: On the casing, anything different used on the casing?

A. Yes. These I can see here are the first I had ever seen them used, and also that it was the first time I had ever seen them weld the casing together instead of screwing it on.

Q.19: They used welded casing on this job?

A. They used welded casing.

Q.20: That is, the joints between the casing were welded? A. Were welded.

Q.21: They used these particular devices, you say you see them before you, and you were referring them to [1822-556] Exhibit A, which is this device, and Exhibit 2, which is the device on your right-hand side. Were such devices used on the casing in this Kelly Well?

A. Very similar, as near as I could remember. I have seen these since that time, and so—but they were very similar to that. They looked just exactly like it, as near as I could remember it at the time.

Q.22: How were these devices, which you say were like either Exhibit 2 or Exhibit A, mounted on the casing?

A. Well, they were just put on the pipe, and they were put on loose on the pipe, and welded above and below, as near as I remember, because I remember commenting at the time that why weld above, because they would come up to the joint, and that was as far as they could come.

(Deposition of K. C. Naegle.)

Q.23: You say they were welded above and below. What do you mean?

A. Well, there was a space in between so that they would move up and down.

Q.24: Would they move in any other way?

A. They would move around, because we had blocks out on the casing we had to roll them over on, and we were pulling them in on kind of a roller affair, and we jammed one or dropped it when we were raising it.

Q.25: Yes.

A. And I remember the guys went out to move it, [1822-557] to see if it would turn.

Q.26: Did it turn?

A. Yes, we didn't hurt it at all. It didn't really hit it. It hit the pipe.

Q.27: How many of these scratchers were there used on that occasion, do you remember?

A. No. I could say several, but I don't know. I wouldn't have any idea. I don't remember how many. There were some used.

Q.28: There was more than one used?

A. Oh, yes, because I remember one was on one joint and I remember two on another joint. Other than that I don't know how many were used.

Q.29: I hand you a drawing, Exhibit B, and ask you if you have seen that drawing before.

A. Yes, I think so. I have seen one very similar.

Q.30: You saw one of those, a copy of that same drawing, when you executed that affidavit in this matter, did you not?

(Deposition of K. C. Naegle.)

A. Yes, that's right.

Q.31: Now, does that drawing in any way indicate to you the way that the scratchers were mounted on the casing in this Kelly Well?

A. Yes, that is about as near as I can remember it, being like that. The distance here, I wouldn't say how far, [1822-558] whether it was the distance you have marked on here.

Q.32: You see where there is marked between the beads that are welded to the casing the markings "9"—no.

A. "6," I believe.

Q.33: "6 2 6." A. Yes.

Q.34: That is what you mean when you say you are not certain about that distance?

A. I don't know how far, whether that was correct or not.

Q.35: But these little spots or beads that are above or below the casing indicate the manner in which the beads were welded to the casing?

A. Yes.

Q.36: At the Kelly Well? A. Yes.

Mr. Seofield: Objected to as leading.

The Witness: These were a stopper for this, and these are welded on. Why they didn't—one was very near the top joint, and I said, "Why didn't they just put that on here, because this welding job here would stop it."

Q.37: (By Mr. Lyon): How far below the end of the casing, in that particular casing did they weld the beads, do you remember?

(Deposition of K. C. Naegle.)

A. How far below the end? [1822-559]

Q.38: Yes.

A. On one it wasn't too far below, that is, I would say, oh, six or eight feet probably.

Q.39: Is the distance indicated on Exhibit B between the beads in any way comparable with the distance apart between the beads as they were welded on the casing at the Kelly Well?

Mr. Scofield: That question is objected to as leading.

Q.40: (By Mr. Lyon): Is it in any way comparable? A. It is very similar.

Q.41: That is, the total distance between beads on the drawing has indicated it 14 inches. You wouldn't want to say it wasn't 18 or 20 inches or 12 inches; is that what you mean?

A. No, I wouldn't say that it was, how far it was, because I know that it moved, and the distance, I wouldn't say how far they were.

Q.42: But the distance wasn't a matter of feet?

A. No, not too far particularly. I don't know just how far it was. I know they moved, and I figured at the time that it was probably a stretch, you know, they could move in, so that they could move a little bit up and down.

Q.43: Do you remember which way the wires extended in the scratchers that were used at the Kelly Well?

A. As I remember, they came out and went off on an [1822-560] angle.

(Deposition of K. C. Naegle.)

Q.44: An angle which way?

A. Well, it would be, come straight out and then off on—to an angle such as——

Q.45: I will show you two scratchers. One is Exhibit 2, Applicant's Exhibit 2, and the other is Petitioner's Exhibit A. I call your attention to the fact that in one the wires come out straight, and in the other they go at an angle.

Mr. Scofield: I want to caution you before you give this answer, you are under oath.

The Witness: Yes.

Q.46: (By Mr. Lyon): You understand in all your answers you are under oath, don't you?

A. Yes, I understand that.

Q.47: Do either of these scratchers, Exhibit A or Exhibit 2, correctly show, to your recollection the extent of the wires, and if so, which one?

A. This is the one that I would pick.

Mr. Lyon: The witness has picked Exhibit A.

That is all. [1822-561]

* * *

DEPOSITION OF THOMAS RUTHERFORD
a witness produced on behalf of the Petitioner, having been first duly sworn to testify the truth, the whole truth and nothing but the truth, upon oral interrogatories, deposed and testified as follows:

Direct Examination

By Mr. Lyon:

Q.1: Will you state your full name?

A. Thomas Rutherford.

Q.2: Where do you reside?

A. Now, 1992 Lime Avenue, Long Beach.

Q.3: What is your occupation, Mr. Rutherford?

A. Well, welder mostly.

Q.4: How long have you been in the welding business? A. Oh, roughly 25 years.

Q.5: Do you operate your own business?

A. Sometimes.

Q.6: Sometimes, and sometimes work——

A. For others.

Q.7: For wages? A. That's right.

Q.8: In 1939 were you operating your own business? A. No.

Q.9: Were you working for some particular company [1822-593] at that time?

A. Yes, Thomas Kelly & Sons.

Q.10: How long did you work for Thomas Kelly & Sons?

A. Oh, well, at that particular time just a few months.

Q.11: What particular time was that?

(Deposition of Thomas Rutherford.)

A. Well, the time they were drilling those wells there in—well, Compton on——

Q.12: Were you working at that time strictly as a welder, or as a combination welder and roughneck? Did you confine all your activities to welding? A. No.

Q.13: You worked as a roughneck also?

A. No.

Q.14: Well——

A. At that time I don't know what you would call it or term it as, but I was—well, at the beginning I was roughneck and welder, yes, but afterwards I would answer the telephone, go to work at 8.00 o'clock in the morning until—I mean in the evening, until 8:00 o'clock in the morning, and would be like an errand boy for the drillers, and so on, and like that, answer the telephone and get them anything they wanted to have for their breakdowns.

Q. Some of the time they didn't let you do either [1822-594] roughneck or welding?

A. At that time, no, I didn't roughneck, no.

Q.16: Did you work on the McMillan No. 1——

A. Yes.

Q.17: ——Well of Thomas Kelly & Sons?

A. I did, yes.

Q.18: Where was that well located?

A. I can't give you the streets, on Compton Boulevard—Avenue, a block east of Main Street on Compton Avenue.

Q.19: That was on the Rosecrans Field?

(Deposition of Thomas Rutherford.)

A. I guess you would call it the Rosecrans Field, yes. I guess it is.

Q.20: In Los Angeles County here?

A. That is right.

Q.21: When did you work on that well?

A. Well, it was in 1929, just——

Q.22: 1929? A. December.

Q.23: 1929 or 1939?

A. '39, and it was in December, because it seems like to me that they sealed up the well and shut down over Christmas, something like that, I forget now exactly, New Year's, I forget, one of the two. So it would make it in December, as near as I can remember on [1822-595] that.

Q.24: I will refer you to Petitioner's Exhibits C and D, and to the midnight to A.M. tour on both Exhibits C and D, and this is Exhibit C and this is Exhibit D, and I ask you if that is your signature. Look at both of them.

A. No, and again, no.

Q.25: That is not your signature?

A. No, but I know whose it is.

Q.26: Whose is it? A. My brother.

Mr. Scofield: Whose?

The Witness: My brother. If you will notice it is a "J."

Q.27: (By Mr. Lyon): That is right. Your brother was working in the same well at the same time, was he?

A. Yes, he must have been, but I don't recall it somehow.

(Deposition of Thomas Rutherford.)

Q.28: Did you sign the log book, working in that capacity?

A. I don't think I did, because they put me on a monthly salary during that operation, during the time that that well was being drilled, for that one well only.

Mr. Scofield: What is your brother's name, Mr. Rutherford? [1822-596]

The Witness: Pardon?

Mr. Scofield: What is your brother's name?

The Witness: James.

Q.29: (By Mr. Lyon): Did you perform any welding operations at the McMillan No. 1 Well in December of 1939?

A. Well, I done the welding, most of it. I didn't do all of it, but I did most of it.

Q.30: What welding did you do?

A. Well, the term is rigging up of the drilling equipment from the time they installed the machinery, their drilling equipment machinery.

Q.31: What welding did you do in that capacity? A. Well, in what way?

Q.32: Did you weld anything, any metal together of any kind? A. Of course.

Q.33: What?

A. Pump suction and water lines, steel lines.

Q.34: After the rig was set up did you do any other welding?

A. Well, any breakdowns, any bolts broken or any other necessary welding to keep the—well, the rig, as we call it, running.

(Deposition of Thomas Rutherford.)

Q.35: During the drilling operations did you do any welding? [1822-597]

A. Oh, no, my capacity from then on was sort of a, I guess they call it a nipple chaser, I guess. I didn't have any duties other than that, as far as any say-so about the well, what to do, or anything like that, no. I just——

Q.36: Did you weld any sections of the casing together?

A. Well, I welded the shoe joint on the pipe, on the string pipe. That is what you are referring to?

Q.37: I am referring to any welding. You welded the shoe on the bottom of the casing?

A. I did that.

Q.38: Did you weld anything else on the casing?

A. Well, you know, I said once that I welded the scratchers, as they call them, on the pipe, but since I have had a chance to refresh my memory on that, why, how them scratchers were put on, to this day I will be damned if I know.

Q.39: You just don't know?

A. I don't remember, but I said once they were welded on.

Q.40: Did you weld any beads around the pipe at any time, the casing in this particular No. 1 Mc-Millan?

Mr. Scofield: The Patent Office will note that the witness has just answered that he did not recollect how [1822-598] these scratchers were put on the casing.

(Deposition of Thomas Rutherford.)

The Witness: No, I don't remember just exactly how them things were put on. I did say once they were welded to the pipe, yes. Well, I know that there was something put on there, and I done all the welding on that particular job, on the casing job. There was other things besides these things put on there. There was centralizers or equalizers, and the shoe joint was all welded on.

Q.41: (By Mr. Lyon): The centralizers were welded on?

A. Well, they were welded. There is two ways of putting them on. At that time I don't remember how they were put on.

Q.42: You don't remember whether they were welded or not?

A. They were welded, put on the pipe, and then there is a stop put on there, so that they won't just travel all the way up and down the pipe. They wanted those centralizers to stay more or less in one spot on the pipe.

Q.43: Well, was there anything different about those scratchers?

A. Well, there must have been, but I can't remember it.

Q.44: You have given two affidavits in this matter? [1822-599]

A. Yes, I know it, yes. I am all fouled up on the whole thing.

Q.45: You first gave an affidavit. Before you gave this first affidavit who called on you about this matter?

(Deposition of Thomas Rutherford.)

A. Well, what do you mean, called me at the house?

Q.46: Yes, who talked to you?

A. Well, there was Oscar Gay and a fellow by the name of Hall. I don't know their initials, his initials.

Q.47: Which Hall was it, the one sitting here?

A. I don't see him in here.

Q.48: An older man than the man with the glasses on? A. This one? (Indicating.)

Q.49: Yes.

A. Oh, yes, an older man, not so heavy.

Q.50: Did he introduce his name to you as Jesse E. Hall? A. I think he was, yes.

Q.51: He came to you with Oscar Gay, who is sitting over there in the corner?

A. Yes. Oscar.

Q.52: How long have you known Oscar Gay? [1822-600]

A. I never had met him before.

Q.53: Had you met Jesse Hall before?

A. No, I never saw the man.

Q.54: What did Mr. Gay tell you?

A. What did he tell me?

Q.55: Or Mr. Hall tell you, when they came to see you? A. They didn't tell me anything.

Q.56: They came to see you?

A. That's right.

Q.57: Did you talk to them?

A. Sure, I talked to them.

(Deposition of Thomas Rutherford.)

Q.58: What did he say?

A. What did he say?

Q.59: What did either Jesse E. Hall or Oscar Gay say to you?

A. Well, they asked me about these things, if I had put them on the pipe, did I weld them on the pipe, or so on and like that. That is where I made that affidavit at that time. Right now I still don't remember how them things were put on the pipe, welded solid or otherwise.

Q.60: Where did this conversation take place?

A. At my home.

Q. 61: Did you talk to them at more than one place?

A. No, they were there about five minutes at the [1822-601] house.

Q.62: Did they present you with this affidavit, did you sign it?

A. I went down the next following morning to their offices on—in Signal Hill, on—they asked me to make out, to sign that affidavit, and I read it, and I figured: Well, that's the way it was.

Q.63: As I understand it, they gave you a check at that time for your time and trouble?

A. Later they sent me, mailed me a check.

Q.64: And later Mr. Gay also gave you a \$100 bill, didn't he? A. Yes, he did, yes.

Q.65: Where was that?

A. I don't remember that exactly. It was at the house, I think.

Q.66: At your home? A. Yes, sir.

(Deposition of Thomas Rutherford.)

Q.67: When?

A. Oh, I don't remember that, several days later.

Q.68: Is that the time you signed this first affidavit?
A. No, it was after.

Q.69: Why did he give you the one hundred dollars? [1822-602]
A. Well, for my trouble.

Q.70: He had already given you a check for your expense and trouble, hadn't he?

A. Well, that come later.

Q.71: How much was the check for?

A. \$10.

Q.72: \$10? Now, you were with them, you say, about five minutes the first time, and how long did it take you to go down to their office and sign this affidavit?

A. Well, about four hours I was there, waiting for someone to come up.

Q.73: About four hours?
A. Yes.

Q.74: That is all the time you spent on it?

A. Yes, that's about all the time.

Q.75: And he came by then after you had signed the affidavit and gave you this one hundred dollar bill. It was not one hundred dollars in any other form, was it?

A. Oh, a one hundred bill, yes.

Q.76: A one hundred dollar bill, and did he say anything to you when he gave it to you?

A. He didn't say a word, sir.

Q.77: Didn't you say anything?

A. Well, it was in an envelope.

(Deposition of Thomas Rutherford.)

Q.78: It was in an envelope? [1822-603]

A. It wasn't sealed, but it was in an envelope, and he said, "Here, here, take this," or some words to that effect.

Q.79: And that is all that was said?

A. Yes.

Q.80: And you did not say anything?

A. No, I didn't.

Q.81: You did not open the envelope and look to see what was in it?

A. Not until after he was gone.

Q.82: Well, did you make any effort to return it to him at any time?

A. What are you going to do?

Q.83: I am just asking you. Did you ever contact him?

A. I needed some money at that time, and I figured, well, easy come, easy go. If he wanted to hand out one hundred dollar bills, what's the better, I'll take them.

Q.84: And you never endeavored to find out why he gave you the one hundred dollar bill?

A. Well, just for my trouble in—well, for making out this affidavit. I imagine it was worth it to him.

Q.85: And that is all you ever did for [1822-604] him, and the only time you ever saw Oscar Gay?

A. That's right. Yes, sir, I never saw him before, prior to this business.

Q.86: You never saw him afterwards?

(Deposition of Thomas Rutherford.)

A. Well, I haven't seen Oscar for, oh, up until now, for a year or more, oh, longer than that, I guess.

Q.87: How long had you known Gay before?

A. I didn't know him.

Q.88: This is the first time you ever saw him, was when he called on you with Jesse E. Hall, with reference to this McMillan No. 1 Well; is that it?

A. Yes.

Q.89: And the last time you saw him with respect to that was the second time you had seen him, and he handed you a one hundred dollar bill in an envelope without saying a word?

A. That's right; he did, yes.

Q.90: And since then you haven't seen him until today? A. I haven't, no.

Q.91: Still you call him by his first name, Oscar?

A. Everyone does.

Q.92: Was Jesse E. Hall present when he gave you this one hundred dollar bill? [1822-605]

A. No.

Q.93: He sent you this check. Was that a check of the Weatherford Tool Company?

A. That's right, yes. It was from Texas, if I recall, from in Texas, Texas.

Mr. Scofield: Will you read the answer?

(The answer was read by the reporter.)

The Witness: It came from Texas, somewhere down there. I don't remember now.

(Deposition of Thomas Rutherford.)

Q.94: (By Mr. Lyon): You say that Mr. Gay was alone when he gave you this one hundred dollar bill in the envelope?

A. As near as I can remember now.

Q.95: Where did he give it to you?

A. Just after he left, went out the door of the house, he handed it and closed the door and walked out.

Q.96: Had he been calling at your house?

A. Yes; I forget just what that was. He didn't call there; he said, "Here, take this."

Q.97: He was coming out of your house, he had been in there? A. Yes.

Q.98: And he had been in there talking to you about this well matter?

A. Well, it was pertaining to that.

Q.99: What did he say at that time? [1822-606]

A. You got me; I don't remember.

Q.100: You can't remember a thing he said? The only thing you can remember that he said is that when he left was, "Here, take this," without telling you what it was, why he was giving it to you?

A. No, he didn't.

Q.101: Or did he say, "Take this one hundred dollar bill in an envelope," did he say that?

A. No, he didn't.

Q.102: He didn't tell you what it was?

A. He just handed me the envelope and—as he went out the door, and he closed the door, and that was the end.

Q.103: He never said a word?

(Deposition of Thomas Rutherford.)

A. As he handed the envelope, what was in it, I didn't know.

Q.104: He didn't say anything when he handed it to you? A. Not—no.

Q.105: And you can't remember a thing that he said when he was in the house?

A. Well, he wanted to be sure that I remembered about welding these scratcher things on, and so on like that.

Q.106: He came out again to be sure [1822-607] you would remember that?

A. The exact conversation, I couldn't recall all of that.

Q.107: And to be sure that you remembered that he handed you a one hundred dollar bill, is that right? Is that what you mean?

A. No, no, I don't.

Q.108: He didn't hand it to you for any other reason, did he?

Mr. Scofield: That is argumentative. Objected to as argumentative.

Q.109: (By Mr. Lyon): Go ahead and answer.

A. What?

Q.110: Go ahead and answer.

Mr. Scofield: I just objected to his question because it is argumentative.

Mr. Lyon: You don't pay any attention to what he says.

Mr. Scofield: Yes, you pay attention to what we say, but you can go ahead. If you care to answer the

(Deposition of Thomas Rutherford.)

question you may do so. You might read him the question, Mr. McClure.

(The question was read by the reporter.)

The Witness: Well, I can't think of any—just presumably that would be the reason. [1822-608]

Q.111: (By Mr. Lyon): At the time that you signed the second affidavit who called on you?

A. Oh, the second? Barkis and Wright.

Q.112: Both of them together? A. Yes.

Q.113: Where did they call on you?

A. At work.

Q.114: At work? Where were you working?

A. I was working for a lumber company on Del Amo and Alameda.

Q.115: At that time didn't you tell Mr. Barkis and Mr. Wright that you mounted these scratchers on a six and five-eighths-inch casing as you were told to mount them by Barkis and Wright?

A. Well, I have had time to think this thing over.

Q.116: Just answer that question.

Mr. Scofield: Let him finish.

Q.117: (By Mr. Lyon): Didn't you tell them that at that time?

A. Repeat that question.

Q.118: I said at the time that Barkis and Wright called on you before you gave this second affidavit didn't you tell them that you mounted those scratchers on the six and five-eighths-inch casing as in accordance with [1822-609] the instructions given you by Wright and Barkis?

(Deposition of Thomas Rutherford.)

A. Well, you know, I put them on, I guess I put them on. I welded whatever was on there, but I don't remember how them things went on there.

Q.119: Under whose directions were you working?

A. Well, Earl Sweetzer was the drilling superintendent, I guess that's his title.

Q.120: Didn't Earl Sweetzer tell you to mount them as you were instructed to by Wright and Barkis? A. I don't remember that at all.

Q.121: You don't remember that? A. No.

Q.122: Do you remember how many that you mounted? A. No, I don't.

Q.123: Had you ever mounted any scratchers before that time?

A. No, I never saw them before.

Q.124: Somebody had to tell you how to mount them, didn't they?

A. Well, I guess somebody told me how to put them on.

Q.125: Did you ever meet Mr. Wright or Mr. Barkis before the time they called on you for this second affidavit? A. No. [1822-610]

Q.126: You did not see them at the McMillan No. 1 well?

A. I don't remember seeing them there.

Q.127: At the time Mr. Barkis and Mr. Wright called on you before you signed your second affidavit, didn't you tell them that Jesse E. Hall and Oscar Gay, before you signed your first affidavit, merely stated to you that there was a controversy

(Deposition of Thomas Rutherford.)

over the design of the scratchers, and that the manner of mounting the scratchers on the casing was of no importance? A. Yes.

Q.128: They told you that then? A. Yes.

Q.129: On March 26, 1952, before the notary you swore that the following was a true statement of facts: "That I mounted a total of about 20 scratchers on the bottom four or five joints of the casing. That the casing was placed on skids so that the joints of casing could be rolled without interfering with the wires. That I welded a row of beads or stops around the casing about six inches above and below each scratcher and I did not weld the scratcher to the casing. That the scratcher was entirely loose on the casing between the rows of beads or stops"?

You swore that that was a true statement at that time, didn't you? [1822-611]

A. Yes, I did, yes.

Q.130: Is your recollection now any better than it was then?

A. No, it isn't. I will tell you the truth when I tell you I don't remember how them things were put on there, whether that was true or the other one was true, and I say I did the welding on the job, too.

Q.131: At the time you worked on this McMillan No. 1 Well you did not know either Barkis or Wright, did you?

A. I had seen Barkis coming out of Kelly's

(Deposition of Thomas Rutherford.)

office on Signal Hill a time or two. I knew his brother, that's all, not him, prior to that.

Q.132. You had seen Barkis on the Kelly property before that time?

A. Coming out of the office that they maintained on Cerritos Avenue.

Q.133: Do you remember anything about the scratchers that were mounted at that time on the casing at this McMillan No. 1 Well?

A. I never seen the things before, prior to that.

Q.134: Do you remember what they were like? You were there when they were put on the casing, were you?

A. They were put on, and just slid up [1822-612] on there, and, as far as I was concerned, well, they were on there, and that's all there was to it.

Q.135: All that you saw that they were just slid on a casing, and they were on? A. Yes.

Q.136: And you did not do anything about them yourself?

A. There must have been some welding done, with all this fuss being made over them, why——

Q.137: But you didn't do any of it yourself?

A. What do you mean, didn't do what?

Q.138: You didn't do any welding?

A. Well, I told you I welded the shoe joint on the——

Q.139: I mean you did not do any welding on the casing when these scratchers were slid on the joint, as you say?

A. I told you I don't remember, and I don't.

(Deposition of Thomas Rutherford.)

Q.140: There were two scratchers here in front of you, Exhibit A and Exhibit 2. Can you tell me what the scratchers you saw slid on the casing looked like?

A. Them things look alike to me. Look, I didn't pay no attention to them things, because it wasn't my business to see what them things there looked like. It was in the afternoon, and it was dark, and I had nothing [1822-613] to do with the, that is, other than slide them on the pipe.

Q.141: But you saw them slid on the pipe?

A. Yes, I saw them put on the pipe, and I had to remove the protector to put them on.

Q.142: You saw the protector removed so that these could be slid on?

A. You have to take the protector off to get them things on there.

Q.143: I am asking you if you saw them, not supposing something. A. No.

Q.144: I take it, Mr. Rutherford, when you say something you state it to be a fact, not that you are supposing something. A. O.K.

Q.145: But you did actually see the scratchers slid on the casing? A. Yes, yes.

Q.146: You haven't ever been paid anything by B & W, by Bruce Barkis or Kenneth A. Wright, have you? A. No.

Q.147: You haven't been promised anything?

A. No, I haven't, nothing.

Mr. Lyon: That is all. [1822-614]

(Deposition of Thomas Rutherford.)

Cross-Examination

By Mr. Scofield:

XQ.1: Mr. Rutherford, as I understood your testimony, after you had seen Oscar Gay and this other Mr. Hall at your home you then went some place to sign this affidavit?

A. Yes; their office on Signal Hill.

XQ.2: There in Long Beach?

A. The Long Beach office, yes.

XQ.3: Do you see here at the table anybody else that was there at the office?

A. That gentleman over there.

XQ.4: You are referring to Mr. Subkow here at the end of the table, with the glasses?

A. I don't know the man's name, but he was there.

XQ.5: He was there?

A. He was the one that wrote the—well, statement, I guess.

XQ.6: The affidavit?

A. He was the gentleman that—why I waited so long, for him.

XQ.7: What do you mean you waited so long for him?

A. Well, I was due on a job at 8:00 o'clock in the morning, and I didn't get there until [1822-615] 12:00.

XQ.8: And you had to wait for Mr. Subkow to get there?

(Deposition of Thomas Rutherford.)

A. Yes, it was a very foggy morning, and he had quite a time driving down from wherever he lives, down to the office down there.

XQ.9: What did he do after he got there?

A. He just grabbed a scratch pad and started writing on it, just asking questions.

XQ.10: Did he ask you questions?

A. Well, no; it was Mr. Hall and Mr. Gay over there.

XQ.11: Did he asked you any questions at all about this matter? A. He didn't, no.

XQ.12: And he wrote this out while you were there? A. That's right; yes.

XQ.13: And then did you read it?

A. Pardon me, he wrote it in long hand. It was later typed up.

XQ.14: Did you wait until it was typed?

A. That's right.

XQ.15: There at the office?

A. No, no, no, no.

XQ.16: What happened to it then? I want to get the sequence of events. What happened after he wrote this [1822-616] in longhand, and while you and Oscar Gay and Mr. Hall and Mr. Subkow were there he was writing this in longhand?

A. That's right.

XQ.17: Then do you know what happened?

A. Well, I signed that, and I went on.

XQ.18: Where did you sign it?

A. In that office.

XQ.19: While it was in longhand?

(Deposition of Thomas Rutherford.)

A. Yes. They must have a copy of it, I guess.

XQ.20: Then did you see Mr. Subkow after that?

A. No, no.

XQ.21: You didn't see Mr. Subkow at any later date? A. Not until now.

XQ.22: When did Mr. Gay give you this one hundred dollars?

A. Well, like I say, just as he left the house, he just stepped out the door, turned around, handed this envelope, see.

XQ.23: Was this on the same occasion when all of these men were there in the office, or was it at some later time?

A. Well, it was the time that—after this was wrote up in longhand he came over to tell me to come down to the office, that it had been typed up, and for me to come down the following morning and sign the typewritten [1822-617] statement.

XQ.24: I see.

A. That was when that took place.

XQ.25: Then you went down the following morning?

A. Yes. I wasn't—it seems like I wasn't busy or wasn't doing any work that morning on any particular job or any particular rush, and I had a few minutes, so I drove by and signed this typewritten statement.

XQ.26: You went to Mr. Gay's office on the second occasion? A. Yes.

XQ.27: In fact, you were there on both occasions? A. Yes, that's right.

(Deposition of Thomas Rutherford.)

XQ.28: And on the second occasion you went down to sign this—— A. Typewritten——

XQ.29: ——typewritten paper?

A. Yes.

XQ.30: Who was there on the second occasion besides Mr. Gay?

A. Oh, an office man they have down there and Mr. Gay and a Mr. Hall.

XQ.31: Was Mr. Subkow there on the second occasion when you went to sign the typewritten copy? A. I don't think he was. [1822-618]

XQ.32: Was Mr. Hall there?

A. Mr. Hall was.

XQ.33: Was Mr. Hall there? A. Yes.

XQ.34: On the second occasion with Mr. Gay?

A. Yes, that's—now, I think he was.

XQ.35: Try and recollect whether Mr. Hall was there when Mr. Gay gave you this envelope with one hundred dollars in it.

A. No, I don't think he was then.

XQ.36: You don't think Mr. Hall was there?

A. No; Mr. Gay came by and just said that the typewritten forms was made up, and for me to drop by in the morning and sign them, that they had them there, that the form in longhand wouldn't do. [1822-619]

* * *

XQ.38: (By Mr. Scofield): Let me state what you have indicated how this occurred, and see if my understanding is correct. At the first meeting, the first time you met these gentlemen——

(Deposition of Thomas Rutherford.)

A. Yes.

XQ.39: ———you went to Mr. Gay's office in Long Beach on Signal Hill? A. Yes.

XQ.40: Is that correct?

A. Yes, that's right, yes.

XQ.41: And there was there at that time only Mr. Gay and Mr. Hall, and Mr. Subkow had not come yet?

A. Yes, that's right. We waited on him.

XQ.42: Mr. Subkow then came in; is that correct? A. Yes.

XQ.43: And he wrote this affidavit out in long-hand? A. He did. [1822-620]

XQ.44: Did you sign it then?

A. Yes, I signed that one, yes.

XQ.45: You signed the one that had been written up in longhand? A. Yes.

XQ.46: Then you went home?

A. I went to work.

XQ.47: You went to work. Then the next day Mr. Gay, did he call you or did he come to your house?

A. He came—I forget when it was, but he came in the evening and said that the affidavit was typed up, and for me to drop by the office the following morning. It was along about—oh, along, I don't know, 7:00 or 8:00 in the evening.

XQ.48: He came by personally?

A. Mr. Gay did, yes.

XQ.49: He did not call you on the phone, but he came by personally to your home?

(Deposition of Thomas Rutherford.)

A. That's right.

XQ.50: And he asked you to come to the office the following morning?

A. Yes, that's right.

XQ.51: And you went to the office the following morning? A. Yes. [1822-621]

XQ.52: Had the affidavit been typed up?

A. It was waiting there for me to sign it.

XQ.53: Now, did you sign it, or did Mr. Gay say, "I won't give you this one hundred dollars until you sign it"? Did he say that? A. No.

Mr. Lyon: He had already given you the one hundred dollars then?

The Witness: There was nothing about the one hundred dollars.

XQ.54: (By Mr. Scofield): Nothing said about the one hundred dollars?

A. Nothing said about the one hundred dollars.

XQ.55: Then you signed the affidavit?

A. Yes.

XQ.56: And then as you were going out he gave you the one hundred dollars?

A. Not in the office.

XQ.57: Not in the office?

A. Like I am telling you——

XQ.58: When did he give you the one hundred dollars?

A. Damn, you guys got it down in black and white. I told you. Look. I signed this—made up the longhand affidavit, all right. The following—I don't know if it was the following day or not, they

(Deposition of Thomas Rutherford.)

had a typewritten [1822-622] affidavit made up, or several of them, and I signed I don't know how many copies. All right. But, in the meantime, after signing the longhand copy Mr. Gay comes by the house, and said they had them typewritten, and wanted me to drop by the office the following day. The particular days and dates, I don't remember that, no, but that was the time, between the time the longhand and the typewritten, and before I signed the typewritten was when Mr. Gay handed me the envelope.

* * *

XQ.59: (By Mr. Scofield): When you had the first conversation with Mr. Gay did you tell him anything about your circumstances? [1822-623]

A. No, never a thing said about that, no.

XQ.60: That is, did you tell him that you had any hospital bills? A. No.

XQ.61: Had you been to the hospital for any reason? A. No.

XQ.62: You had not been to the hospital for any reason? A. No.

XQ.63: And you did not go to the hospital afterwards? A. No.

XQ.64: In your direct examination, in one of your answers you started out by saying, "I have had time to think." What did you mean by that?

A. Well, about several things pertaining to the drilling of that well mostly, the fellows that worked there, the drillers and things of that sort, nothing much compared with this business here.

(Deposition of Thomas Rutherford.)

XQ.65: You did not mean to indicate by that statement, "I have had time to think," that you had in any way given thought to these two affidavits? A. Well, very little.

XQ.66: But I mean by that statement——

A. I recall that the pipe with these [1822-624] things were put on, they were on skids, like he read a minute ago in that other affidavit, in the second affidavit. They were laid on skids. That is one of the things that I hadn't thought of and, of course, I said they were in the beginning.

XQ.67: Do you recall whether there was a liner on this string of pipe? A. A liner?

XQ.68: Yes, a liner of any sort?

A. No, there was nothing like that, no.

XQ.69: Nothing like that on it? Do you know what a liner is?

A. You mean an outer—like a gravel packed liner?

XQ.70: A perforated liner?

A. Nothing like that there, no.

XQ.71: There wasn't anything like that on this particular string of pipe?

A. No, because they ran a liner later. They drilled—oh, I don't know whether they did or not. I had nothing to do with the——

XQ.72: Do you remember——

A. ——with the operation of the well.

XQ.73: Do you remember whether they ran a liner in this particular well? [1822-625]

(Deposition of Thomas Rutherford.)

A. No, I don't. I don't remember whether they shot holes in there or whether they run a liner later.

XQ.74: What did your brother do on this particular well, do you know?

A. Oh, he was a well rotary helper, a rough-neck.

XQ.75: Did he do any welding? A. No.

XQ.76: Do you know where these scratchers were put on this string of pipe? Were they at the top, middle or bottom, or where?

A. No, I don't.

XQ.77: You don't recall that?

A. No. [1822-626]

* * *

DEPOSITION OF ANN L. SIGEL

a witness produced on behalf of the Petitioner, having been first duly sworn to testify the truth, the whole truth and nothing but the truth, upon oral interrogatories, deposed and testified as follows:

Direct Examination

By Mr. Lyon:

Q.1: Will you state your full name?

A. Ann L. Sigel.

Q.2: By whom are you employed?

A. George Rice & Sons.

Q.3: How long have you been so employed?

A. 19 years, since March, 1934.

Q.4: What business are they in?

(Deposition of Ann L. Sigel.)

A. Printing and lithographer's business.

Q.5: What are your duties with the company?

A. Bookkeeping and secretarial work.

Q.6: Are you in charge of the books?

A. Yes, I am.

Q.7: How long have you been in charge of the books? [1822-634]

A. Well, since March, 1934.

Q.8: You have brought here a book. Is that one of the books you were in charge of?

A. Yes, it is.

Q.9: Will you let me see that book. There is a yellow page, which I have taken out. What is this book?

A. That is a record of work done in certain months. That, for instance, is March, 1940.

Q.10: March, 1940?

A. Jobs completed in March, 1940.

Q.11: The first page of that book is a Job Ticket, Job No. 8001. For whom was that job done?

A. That job was done for B & W, Incorporated, of Long Beach.

Q.12: What was the job?

A. It was for printing, "Wall Cleaning Guides."

Q.13: When was the wall cleaning guide work delivered to B & W?

A. That was delivered on March 14, 1940.

Q.14: In what quantity? A. 1,950.

Q.15: What were they?

A. These were apparently folders, 17 x 11, and folded one fold to 8½ x 11.

(Deposition of Ann L. Sigel.)

Q.16: Do you recall the particular [1822-635] folder? A. No, I am sorry, I don't.

Q.17: This record that you have read from, is that one of the regular records of George Rice & Sons? A. Yes, it is.

Q.18: Who kept this particular record, do you know?

A. That ticket was written by Mr. Rice himself.

Q.19: That is, George Rice himself?

A. And the work was extended on it by myself, the work from the shop, various labor in the shop.

Q.20: That is, that appears on the back of the sheet, in which, for example, under the title, "Gather—399," there is an entry, "D 3-14, Work 439, Units 2." That entry is in your handwriting, is it? A. Yes, that is.

Q.21: That entry was made when?

A. That entry was made, that was for work done on March 15, that probably was entered on March 15.

Mr. Scofield: May I look on with you and see that? Please just point out what you are talking about.

The Witness: They are talking about this bindery time. The last operation on the job is ordinarily wrapping. "439" means that. "D" means the girl who wrapped it and "3/14" is the date it was done.

Q.22: (By Mr. Lyon): Was that a one- or two-color job, can you tell from that record? [1822-636]

A. That was a two-color job.

(Deposition of Ann L. Sigel.)

Q.23: Do you know what the colors were?

A. Yes; they are marked here black and red.

Q.24: I notice the entry is for "Wall Cleaning Guides." You say that you are unable to identify the particular work; is that correct?

A. Yes; I do not recall the job itself.

Q.25: You have brought also with you a yellow sheet. What is this yellow sheet?

A. That is our ledger sheet from the Accounts Receivable Ledger.

Q.26: Who keeps that sheet?

A. That was kept by me.

Q.27: The entries on it are in your handwriting?

A. Yes, they are all in my handwriting.

Q.28: When were the entries made with reference to the date which they bear? For example, the first entry in there is March 21, 1940, and on what date was that entry made, do you know?

A. That is the day it was billed.

Q.29: That is the day it was billed, and the entry was made how soon after the billing was done, I mean the entry in this ledger?

A. I would say right after.

Q.30: Right after, and the billing as shown by [1822-637] that ledger was for how much money?

A. \$105.37.

Q.31: Was the work all completed prior to that time?

A. Well, the work was completed on March 14.

Q.32: And delivered on that date?

A. And delivered on that date.

(Deposition of Ann L. Sigel.)

Q.33: I hand you a photostatic copy of a check, and I ask you if you can identify that?

A. That is a check made out to the company for whom I work in a like amount, \$105.37.

Q.34: It bears a deposit stamp on the back. Whose stamp is that?

A. That is our regular bank endorsement. We still have that particular stamp.

Q.35: You recognize that as your stamp?

A. Yes, that is our stamp.

Mr. Lyon: I will ask that this photostatic copy of the check of March 25, 1940, be received in evidence as Petitioner's Exhibit PP.

(Photostatic copy of check referred to was marked by the Notary Public as Petitioner's Exhibit PP, and made a part of this deposition.)

Q.36: (By Mr. Lyon): I would like to ask a favor of you, [1822-638] if I can have this page of this record photostated, the B & W page you have testified to, and also that ledger sheet. Will that be all right?

A. Sure, that will be all right with the company.

Mr. Lyon: I would like to offer, subect to an agreement with counsel, photostatic copies of these records in evidence, the job ticket, the two sides of it, as identified by the witness, being Job No. 8001 as Petitioner's Exhibit QQ and the ledger sheet as Petitioner's Exhibit RR.

(Deposition of Ann L. Sigel.)

Mr. Scofield: I have no objection to having the reproductions offered.

(The documents referred to were marked by the Notary Public as Petitioner's Exhibits QQ and RR, respectively, photostatic copies of which are made a part of this [1822-639] deposition.)

* * *

DEPOSITION OF HENRY EARL SWEETSER
called as a witness by and on behalf of the Applicant-Respondent, being first duly sworn, testified as follows:

The Reporter: What is your full name, please?

The Witness: Henry Earl Sweetser.

Direct Examination

By Mr. Scofield:

Q. What is your address, Mr. Sweetser?

A. 332 Termeno Avenue, Long Beach.

Q. What is your age?

A. I was born in 1893, November 28th.

Q. How are you employed at the present time?

A. Superintendent for Herley-Kelley.

Q. How were you employed, Mr. Sweetser, in December of 1939?

A. Superintendent for Thomas Kelly and Sons.

Q. Was Thomas Kelly and Sons doing any drilling at that time? A. Yes.

Q. Where were they drilling?

(Deposition of Henry Earl Sweetser.)

A. Rosecrans.

Q. What wells were you drilling at the Rosecrans Field that you had charge of? [1822-646]

A. McMillen Number 1.

Q. The McMillen wells? A. Yes.

Q. How many were there?

A. Let's see, we drilled five altogether.

Q. Did you drill a McMillen Community well number 1? A. We did.

Q. What were your duties on that particular well? A. The well was drilled.

Q. Were you in charge or were you a pusher or what were you?

A. I was pusher and superintendent and the whole works.

Q. Were you employed by Mr. Lawrence Kelly or was he one of the Thomas Kelly and Sons?

A. He was one of the firm.

Q. What is your recollection about the drilling of that well; just give your recollection as best you can after these thirteen years or more about the drilling of that well, if you will?

A. Just what do you want to know?

Q. I want to know what the circumstances were with regard to the casing; what you used; if you used any special tools on the casing and what your experiences were [1822-647] in running the pipe and placing the cement; just what is your recollection at the present time about the Community Number 1?

A. Boy, I will tell you, that is a pretty hard

(Deposition of Henry Earl Sweetser.)

question. If we had a drilling report out here, why, we could tell. I drilled a lot of wells since then.

Q. We have a drilling report or we had a drilling report. I show you a report of the oil and gas division, which has been offered here as Applicant's Exhibits 17A to 17F, inclusive, and ask you if you can identify that report?

A. Yes; this is one we drilled on that McMillen Number 1.

Q. Now, I would like to have you tell me—I would like to have you state, first, before you go over the report, if you have any independent recollection of the drilling and cementing of this well, this Community Number 1, before we go into the report; what recollection do you have of the drilling and cementing of that well?

A. Well, I know we set the casing there and run these scratchers on it and had quite a time getting the casing in the hole and I think there was quite a number, about two or three times as long, getting the casing in the hole as it should have been.

Q. Do you recall whether either Mr. Barkis or [1822-648] Mr. Wright were on the well?

A. I sure do. They were there, by golly, from the time they put the scratchers on until we cemented it.

Q. Do you recall anything more about the actual drilling operations and setting in the casing?

A. You mean actually drilling of the hole?

Q. I am speaking now more particularly—you might state what size——

(Deposition of Henry Earl Sweetser.)

A. We had no trouble drilling the hole. I think it was a ten and five-eighths hole. Down to where we figured the setting hole and the balance of the hole was a smaller hole, a rat hole, and it helped to set the liner in. After you get your casing set in and cemented and approved by the division of oil and gas.

Q. Do you recall whether you reamed the hole at all?

A. Well, I don't recall, but, by golly, I will tell you it would be remarkable if we didn't because I never drilled many holes that I didn't ream.

Q. Do you recall whether or not you had a tailpipe on this casing?

A. I know we had a tailpipe.

Q. What is the purpose of this tailpipe?

A. Instead of putting a running bridge in your casing it is used to put a bridge in below your casing. [1822-649]

Q. Now, do you recall anything unusual about the running of the casing into the hole?

A. We had a hard time getting it in there. It got loggy and we had to circulate the thing in there.

Q. Do you know what that was due to?

A. Due to—in those days of drilling where we had a heavy wall cake on the walls, but you don't have any more. And probably these scratchers were pulling it down and making the pipe loggy. That is the only thing, you know, because we never run scratchers after that along those walls and we didn't have no trouble.

(Deposition of Henry Earl Sweetser.)

Q. Did you ever use any scratchers after that particular well?

A. Yes; I have used a lot of them since then.

Q. Did you ever use any more on those McMillen wells?

A. No; I don't recall of using any more there.

Q. When, after that first well was run, Community Number 1, did you next use scratchers of any sort?

A. I don't think I ever used them with that company, but after I went to work for the company I am with now we run them on every hole we have drilled.

Q. When did you go with this present company?

A. In '43. [1822-650]

Q. Why didn't you use them with the Thomas Kelly and Sons Company after that?

A. We got into quite a bit of trouble with them when we first run them. It wasn't due to the scratchers, I would say, but it was due to the condition of the mud, the condition you had there.

In other words, mud to me is the principal thing of drilling a whole well, that is, to have good mud.

Q. Well, now, after you had finally gotten the casing down to a position for cementing do you recall about the cementing of this well, Community Number 1? A. Well——

Q. What independent recollection do you have about that?

A. The cement was all right. The casting was perfectly free after we got it freed up. We circulated

(Deposition of Henry Earl Sweetser.)

it a long while. And we got the cement in. We didn't have no trouble getting it in.

Q. What did you do after you got the cement in? Did you make a test of any sort?

A. Let me see it. I don't know how many days, I don't recall that. This should tell; four or five days, maybe.

Q. And then did you make any tests of any sort? A. Yes. [1822-651]

Q. Now, when you make these tests, do you have anybody present from the Oil and Gas Division?

A. You certainly do.

Q. Who is he—— A. They are the boss.

Q. Who do you mean by that?

A. You just don't go ahead unless they give you an O.K. They have a man that represents the State and you got to prove to his satisfaction that you have a water shutoff.

Q. Well, do you recall whether or not he gave you an O.K. on this well?

A. Well, I don't know. I know that we recemented it a lot of times. They will give you an O.K. that you can go ahead and take a production test, but it runs into a lot of money when you do that.

Q. Then you did recement the well, this Community Number 1? A. That is right.

Q. And what did you do after that?

A. After recementing it?

Q. Yes. A. Tested it.

Q. Then did you find the well a producing well?

A. Yes; it was perfectly clean. [1822-652]

(Deposition of Henry Earl Sweetser.)

Q. Now, if you will, Mr. Sweetser, will you put the oil and gas report of this well, Community Number 1, which is Exhibits 17A to F before you, and will you tell me what the condition of the well was, this well that you have testified about, on December 31, 1939?

Mr. Lyon: Just a moment. Mr. Sweetser, I would like to ask you a question. Did you ever see this exhibit, the pages, Exhibits 17A to 17F, before?

A. Not to read them, I don't know. Mr. Hall brought some papers with him. Was it these that you brought down (indicating)? He was at my house, but they were on a photostatic copy.

Mr. Lyon: Did you discuss those at that time?

A. Not very much, not extensively, because I told him I would be up here yesterday, which I wasn't.

Mr. Lyon: Did you ever see these papers or the originals of these papers or any copy of them before Mr. Hall presented them to you?

A. I was the one that dictated for them to be made out originally.

Mr. Lyon: Well, did you do that or Mr. Kelly?

A. He signed them.

Mr. Lyon: Now, you have got a sheaf of papers in your hands, some of which is the Division of Oil and Gas report. You don't say that you dictated that. did you? [1822-653]

A. Yes, they come off of my records.

Mr. Lyon: You didn't dictate it?

(Deposition of Henry Earl Sweetser.)

A. They are not dictated. They are taken off the records. That is what you absolutely do.

Mr. Lyon: The report here was formed by the Deputy of 17E and F; the deputy's name was what?

A. Which one are you referring to?

Mr. Lyon: I am referring to the Division of Oil and Gas report, 17E and F, the last two pages here. (Indicating.)

A. I haven't looked at them.

Mr. Lyon: You don't mean you dictated those?

A. No.

Mr. Lyon: You never saw those before?

A. Let's see, I will have to see what they are first. Yes, I had seen this before when they sent it in.

Mr. Lyon: You saw it when they sent it in?

A. When they sent it back. That is his report back to us.

Q. (By Mr. Scofield): When was that, Mr. Sweetser?

A. Well, this report back is dated here January 26, 1940.

Q. That would have been about the time you would have seen it? [1822-654]

A. Yes; they send them back to you. It might have been four or five days later before you get them, but that is when they would date them.

Mr. Lyon: Do you have any recollection of seeing this particular report at any time?

A. No; I don't have no recollection. I see them all the time, all different kind of ones.

Q. (By Mr. Scofield): Mr. Sweetser, let me

(Deposition of Henry Earl Sweetser.)

mark the corner of that page as an exhibit number because we will be referring to it.

A. You always get those papers back from the Division of Oil and Gas.

Mr. Lyon: You always get them back but you may or may not have looked at them?

A. They make them out and they give you an O.K. and approval and give it to you in writing. They give it to you verbally at the well and you can go ahead and after you get back they send them in writing.

Q. (By Mr. Scofield): I have indicated in the right-hand lower corner the exhibit number that the individual papers have been given in the case. Now, would you describe for me from this report, Mr. Sweetser, what the condition of this well was on December 31, 1939; that is, on 17B?

A. Standing cemented. [1822-655]

Q. Had the cement been put in on that date?

A. Yes.

Q. I show you a drawing and will ask you to state—first, I should like to have the drawing which is being submitted to the witness marked as Applicant's Exhibit 25 for identification. I will ask you to state whether or not that drawing shows the condition of this Community Number 1 well on December 31, 1939?

Mr. Lyon: I think this is entirely a leading method. Let the witness explain the condition of the well. You are giving him a drawing and asking him if his interpretation of this is correct and that is

(Deposition of Henry Earl Sweetser.)

not a proper method of examination. That is entirely leading.

Mr. Scofield: Show him the drawing.

Q. (By Mr. Scofield): Now, from the report can you state whether or not the drawing shows the well condition of Community Number 1, McMillen Lease, on December 31, 1939?

A. It looks all right to me. There is only one mistake in it.

Q. You say——

Mr. Lyon: What did he say?

A. I said there is only one mistake in it.

Q. (By Mr. Scofield): What is it? Will you point it out, please? [1822-656]

A. Yes. You don't know the top of the cement until six or seven days later in the pipe.

Q. Don't know the top of the cement for six or seven days?

A. No, because the cement was not drilled out until six or seven days later.

Mr. Lyon: You say this figure on here of 7436——

Mr. Scofield: Let me examine it.

Mr. Lyon: Just a moment. Let me take it. I am asking the witness——

Mr. Scofield: I am examining the witness on direct examination.

Mr. Lyon: The witness pointed out to something——

Mr. Scofield: You can do it on your cross-examination.

(Deposition of Henry Earl Sweetser.)

Mr. Lyon: I will complete the record right now.

Mr. Scofield: I will straighten it out myself, please.

Mr. Lyon: I will straighten it out. The witness pointed out something and I will straighten it out.

Mr. Scofield: You can take your cross-examination in due course.

Mr. Lyon: This is not cross-examination. This is keeping the record clear.

Mr. Scofield: I will clear it myself. I am examining the witness.

Mr. Lyon: I will do it. [1822-657]

* * *

Q. (By Mr. Scofield): You have put your initials on a designation on this drawing reading, "7436 ft. to top of cement in 6 $\frac{5}{8}$ -inch casing." What is there incorrect about that statement, Mr. Sweetser?

A. Because that cement was not drilled out. On January 6, 1940, it was drilled out, the cement.

Q. So that on December 31, 1939, the cement top was not at that location?

A. I don't think so.

Q. Are you sure about that?

A. Well, you go in later and drill out.

Q. Can you tell from the report just where the [1822-658] top of the cement was on December 31st?

A. No, I can't because it was drilled out later.

(Deposition of Henry Earl Sweetser.)

Q. Are sure then that that top of the cement is not correct in the drawing?

* * *

A. Or reasonably so that I didn't figure because the darned thing didn't go—you couldn't tell where the cement was on 12-31-39 because the cement was just put in the hole. You couldn't find out where the cement was until you went in the hole.

Q. (By Mr. Scofield): Well, now, after the report was made, couldn't it have been determined where the height of the cement was at that time?

A. Oh, yes, after you went in the hole you could. [1822-659]

Q. Well, isn't it accurate to say that it was at that height?

A. Well, it says down here on 1-6-40, "Drilled out cement 7436-7488. Ran Hayward, tester." I don't see where it makes a hell of a lot of difference anyway.

Q. Well, let's proceed.

A. I just questioned that because I just happened to look at it here and I know there is no way of telling where the damn cement was without going in and feeling for it.

Q. Was the cement height determined at a later time?

A. Well, I don't know whether the correct report was made out on it or not. They say drilled out cement here from 7436. Then you have cement above that that is flushed up, you know, and washed out.

(Deposition of Henry Earl Sweetser.)

Q. Now, from the report, tell me what the condition of the well was on January 6, 1940?

A. Well, it was drilled out to 7488.

Q. What do you mean by drilled out?

A. Drilled the cement, cleaned it out, setting a packer.

Q. What do you mean by setting a packer?

A. Making a water shutoff there.

Q. Will you briefly describe how that [1822-660] is done?

A. You get a long string of pipe with the valve closed and get it down to where you want to set it and which leaves pipe empty inside and you open the valve and you set your packer and then open the valve and whatever is coming in below will come into your pipe.

Q. What does the packer do?

A. It seals and angles off from the part of the casing, from the lower part of the casing where it is set.

Q. These questions may seem rather elemental to you, but this is going to be sent to a tribunal that knows very little or maybe they don't know very much about the drilling of oil wells. So I would like, if you will, just describe these operations as you go along. Now, proceed. After you had set this packer as you indicated what was done next?

A. The valve was opened after the packer was set and then that allows what is below the packer to flow in, into a tube or drill pipe, I don't know what was used here, but I think a drill pipe was used.

(Deposition of Henry Earl Sweetser.)

Q. What is the purpose of gathering that fluid?

A. To see if you have got a water shutoff.

Q. What was done next on January 6th to describe the condition of this well?

A. Well, they had, according to this, there was 82½ stands fluid consisting of 15 stands thin mud increasingly [1822-661] heavy showing oil; 39 stands light gas-out fluid; 14 stands muddy oil.

Q. What do you mean by stands?

A. Well, that is what was designated as the length that is pulled. And in them days there was two doubles, probably 80 or 85 feet long.

Q. Of what?

A. Of drill pipe. This indicated it was drill pipe. The last is 23½ stands of watery mud showing oil and gas. 61 grains salt per U. S. gallon at double off bottom. That would be the lowest entry—the last entry of the water into the pipe. Then cleaned out sand bridge, 7474-7488.

Q. What do you mean by that?

A. Well, that was an entry of sand that came in with the fluid and sanded it up.

Q. Came into this Hayward tester?

A. No; came into the hole, into the casing.

Q. Now, that was the condition of the well, was it, on January 6, 1940? A. Yes.

Q. I show you, or, I should like to have the reporter mark the drawing which I hand the witness as Applicant's Exhibit 26 for identification.

Mr. Lyon: Objected to as incompetent, [1822-662]

(Deposition of Henry Earl Sweetser.)

irrelevant and immaterial and not properly proven and identified and no foundation laid.

Q. (By Mr. Scofield): I show you this drawing, Mr. Sweetser, and ask you whether or not that drawing——

Mr. Lyon: What drawing is this?

Mr. Scofield: This is Exhibit 26 that shows the condition of the well on January 6, 1940.

A. Is this taken off of this here? (Indicating.)

Q. (By Mr. Scofield): I'm asking whether or not it shows the condition of the well on January 6, 1940?

Mr. Lyon: Further objected to as not the best evidence. The best evidence that we have here is, apparently, the report itself. And also as leading and suggestive.

A. That down here at the bottom here should say watery mud showing on oil and gas. (Indicating.) It just shows watery mud on here.

Q. (By Mr. Scofield): Would you add, "Oil and gas" on this designation with your pencil?

A. I would to make it correct.

Q. Well, you do it.

A. (Indicating.) [1822-663]

Q. Otherwise do you find that the drawing, Exhibit 26, shows the condition of the Community Number 1 on January 6, 1940?

Mr. Lyon: Objected to as calling for a conclusion of the witness and not the best evidence.

A. Yes; that shows the repetition of this right here. (Indicating.)

(Deposition of Henry Earl Sweetser.)

Q. (By Mr. Scofield): And you are referring to the report of the Division of Oil and Gas?

A. 17B.

Q. Now, Mr. Sweetser, would you please state what the condition of the well was on January 12, 1940, and what changes were made since the date January 6, 1940?

A. Well, on the 8th they set a retainer.

Q. What is the purpose of setting a retainer?

A. Well, for your cement to go through. You pump the cement down through this retainer.

Q. Are you going to cement the well now?

A. So that the cement wouldn't come back up into the casing.

Q. Had this well already been cemented on one occasion at this time?

A. Well, it was being cemented when you pump the cement down and when it is first set. To me, this [1822-664] thing here don't prove whether it was wet or whether it was dry, so far as that is concerned.

Q. What do you mean; what did you mean by wet and dry?

A. Well, an ordinary wet well is a salt water well, not a fresh water well, and there is no indication of salt water in this well, which happens a lot of times that way.

Q. And when you say this here in that last sentence, what do you mean?

A. Well, as indicated on 1-6-1940 of that rise, abnormal rise, you might say, of fluid in the hole.

(Deposition of Henry Earl Sweetser.)

Q. Well, after——

A. In other words, most of the time if you had an abnormal rise like that you would have that test on the bottom and you had salt water and which runs around 1700 grains and this here only says 61 grains.

Q. And then you indicated that you set a cement retainer?
A. Yes, 7462.

Q. And then what did you do?

A. Well, they tried to break circulation.

Q. What do you mean by that, breaking circulation?

A. To see if the formation will take [1822-665] anything. Under 3200 pounds it wouldn't take it so they drilled up the cement retainer.

Q. By drilling up the cement retainer, what do you mean; do you drill out?
A. Yes.

Q. You drill through it?

A. Drill it entirely up.

Q. So the cement retainer remains no longer in the well?
A. No.

Q. Then what do you do?

A. Then ran two and a half tubing with a packer and set two and a half tubing in 6975 with packer on bottom and swabbed to 3800.

Q. What did you run this two and a half inch tubing with the packer for; what was the purpose of it?
A. To test the well.

Q. You were making a second test on the well?

A. Yes.

Q. And what do you mean by swabbing?

(Deposition of Henry Earl Sweetser.)

A. Well, you pull a fluid in the hole out with the swabber to lower the level of the fluid in the hole.

Q. What is a swabber?

A. Well, it consists of a mandrel with rubbers on it to pull the fluid out and pull it with a sand line. [1822-666]. That lowers the fluid and tests the well that way.

Q. What were you testing the well for at that time?

A. To see whether we could prove that any water was coming into it.

Q. Then proceed: what did you do next?

A. Well, swabbed it to 3800 and fluid rose 500 feet in 45 minutes showing oil and gas. Swabbed fluid to 4300, and I don't understand this, it ain't quite completed, fluid level 3600. There is no telling there how long it was set.

Q. Why would you swab at two different levels?

A. Well, the deeper you swab it, why, the faster entry you can get.

Q. Faster entry of what?

A. Of the fluid below, whether oil, gas, water or whatever it was.

Q. On those tests what was determined?

A. There wasn't anything determined. Whether wet or dry, the only thing that we did there, we didn't take a chance on it and we recemented it.

Q. What does this mean: "salt increased to 434 grains"?

A. Well, that there was some salt water.

Q. What would that indicate? [1822-667]

(Deposition of Henry Earl Sweetser.)

A. Well, it wouldn't indicate anything.

Q. Would it indicate that you had a water shut-off or not? A. No, it wouldn't.

Mr. Lyon: Objected to as already asked and answered.

Q. (By Mr. Scofield): What would that indicate, the increase in the salt water content in the well?

A. Well, it would indicate—sometimes you might not have the water shutoff and other times you have a lot of oil bearing as soon as that produces salt water for a little while and then they can clean right after that.

Q. What did you do in this instance, on this particular well? A. We recemented it.

Q. You recemented it? A. Yes.

Q. And where is that shown; on what date?

A. Well, on the 12th we started there, "ran cement retainer on tubing and set same at 7464. Pumped away 75 sacks of cement. 1200 pounds increasing to 2500."

Q. What does that 1200 pounds increasing to 2500 pounds mean?

A. That you have got a cement [1822-668] buildup.

Q. It has got a cement buildup?

A. Yes. In other words, if your pressure would go down your cement would be running away on you.

Q. Does it mean that the cement was going into the formation or going into the well?

A. You couldn't tell where it is going, whether

(Deposition of Henry Earl Sweetser.)

going up, down or sideways or what. If anybody can tell you where that cement goes, they are pretty good.

Q. At least, you were getting into the hole somewhere?

A. We were getting it there somewhere.

Mr. Lyon: Now, wait a minute.

Q. (By Mr. Scofield): Does it have any indication as to whether or not you were cementing away some of this part that hadn't been cemented originally?

Mr. Lyon: That is objected to as leading and suggestive and contrary to the statement of the witness.

Q. (By Mr. Scofield): Go ahead and answer it.

A. It is hard to tell you where the cement was going. I wouldn't tell you because I don't know.

Q. Well, what actually did occur then; what did you do after you had pumped in this extra cement?

A. Cleared the cement retainer. [1822-669]

Q. What do you mean by clearing the cement retainer? A. Pump it below the top of it.

Q. Pump it below? A. Yes.

Q. Now, you will have to explain that: pump it below what?

A. You have your cement retainer in there and you have casing in the bottom and casing below and if you want to do any more cement work you have got to clear that cement retainer and that casing that goes immediately below it if you want to pump any more cement away.

(Deposition of Henry Earl Sweetser.)

Q. And how do you do that?

A. You have got a ball, and set in your cement retainer that keeps the cement from entering back up into the casing.

Q. How do you do that, the clearing of the cement retainer, how is it done?

A. Just pumping more fluid than what you have got pressured, and want to stop it, say, in this instance we were stopping it above there, a cement retainer, pumping up more fluid to pump it below it.

Q. Did you do that? A. Yes, it was done.

Q. Did that fluid have cement in it or [1822-670] not? A. Which?

Q. That you were pumping in?

A. No, it was mud.

Q. So you were trying to pump out the cement that was in the tubing?

Mr. Lyon: That is objected to as leading. Why don't you let the witness testify.

Q. (By Mr. Scofield): What were you doing?

A. Pumping the cement out to clear the retainer so this retainer would not be fouled up to do another cement job.

Q. Where was the cement?

A. After we pumped it in?

Q. No, before you pumped it out where was the cement?

A. Theoretically, I don't know, because all it says here—this happened too many years ago for me to remember the details on it, but there was 75

(Deposition of Henry Earl Sweetser.)

sacks of high temperature cement pumped in from 1,200 increasing to 2,500.

Q. Right there you say pump in——

Mr. Lyon: Let the witness answer the question.

Q. (By Mr. Scofield): What was it pumped into? [1822-671]

Mr. Lyon: Let him finish his answer. Have you finished your answer?

Q. (By Mr. Scofield): Go ahead.

A. It was pumped into this tubing down to the bottom and then a squeeze was put on it and you squeeze it out and you hope it is going to shut off water but there is no way telling whether it is going to do it or not if you have got an open hole below it.

And then they cleared that retainer, that cement was pumped entirely below there and then pumped in 25 sacks of Victor high temperature cement and pumped away 6 cubic feet and evidently the packer gave way because the pressure dropped from 3,150 to 1,500 pounds and circulated that to the surface. That was between the casing and the tubing, not around the casing.

Q. You mean that the circulation came back to the surface?

A. Yes, between the casing and the tubing.

Q. And that indicates to you that the packer may have given way?

A. That the packer we were using to squeeze with give way.

Q. What do you mean by this word "squeeze";

(Deposition of Henry Earl Sweetser.)

explain that so that we will all [1822-672] understand it?

A. Well, when you get cement down you pump it down with just an ordinary circulating pressure, probably 500 pounds, and after you get it in place it takes a normal pressure to pump it back into formation. Out in Rosecrans here, below there where they are doing that work now, it takes 4,500 pounds to put it away.

So that was the end of that and drilled up and went back and drilled up this cement retainer and cleaned out the 7,488.

Mr. Scofield: I request that the reporter mark the drawing which I am about to submit to the witness as Applicant's Exhibit 27 for identification.

Q. (By Mr. Scofield): Before you look at this drawing, Mr. Sweetser, will you turn over to page 17C and indicate what entry is opposite January 14, 1940; what was done on the well at that time?

A. "Drilled up retainer and cement and cleaned out to 7,488."

Q. Now, will you look at the drawing, Exhibit 27? A. You better look at it first.

Mr. Lyon: I will do that.

Q. (By Mr. Scofield): Will you compare the drawing with the report? [1822-673]

A. Is this of the 12th?

Q. Yes. Indicate the condition of the well on January 12, 1940, and state whether the drawing shows the condition of the well on that date?

(Deposition of Henry Earl Sweetser.)

Mr. Lyon: Objected to as calling for secondary evidence, not the best evidence; calling for the conclusion of this witness; incompetent, irrelevant and immaterial and leading and suggestive.

A. Well, as far as I know, it looks like it. That is a description of this here. (Indicating.)

Q. (By Mr. Scofield): Have you compared the report with the drawing, and can you state whether the drawing shows a condition of the well according to the report or whether it does not?

A. That looks all right.

Mr. Lyon: The same objection and leading and suggestive.

Q. (By Mr. Scofield): Now, I would like to have you state from the report what the condition of the well was on January 15, 1940, that is, on Exhibit 17C?

A. Well, on the 14th they drilled up the retainer and cement and cleaned out to 7,488.

Q. What do you mean by that? [1822-674]

A. On the 14th?

Q. Yes?

A. Well, that retainer that we had in the hole had to be drilled up before they could make a test and the cement cleaned out down five feet under the shoe.

Q. So you drilled out part of the cement that you had in the well?

A. Well, yes, in the casing.

Q. In the casing?

(Deposition of Henry Earl Sweetser.)

A. Yes. And at the bottom of the casing for five feet.

Q. All right? A. To 7,488.

Q. What did you do next?

A. Ran a Hayward tester on three-inch drill pipe and set packer at 7,432.

Q. Now, what was the purpose of doing that?

A. To determine water shutoff.

Q. To determine water shutoff again?

A. Yes.

Q. Then what did you do?

A. Open the valve and set the packer at 7,432 and opened the valve.

Q. Where was this valve located?

A. In the Hayward tester. [1822-675]

Q. All right, and what was indicated when the valve was opened?

A. Well, bad medium blow for 50 minutes and intermittent medium decreasing to weak for one hour and ten minutes.

Q. What does that mean to you, if anything?

A. Well, you had either gas or oil or water or had a disturbance down there that was moving.

Q. Then what next did you do?

A. And the gas appeared decreasing to weak for an hour and ten minutes. Gas appeared at surface in 46 minutes.

Q. What does that indicate?

A. Had a fair amount of gas.

Q. Then what happened next?

A. Found 800 feet of medium gas out fluid

(Deposition of Henry Earl Sweetser.)

showing increasing amount of oil. Shutoff approved by State Division of Oil and Gas.

Q. What does that mean?

A. Well, you got to have their approval before you can go ahead with an oil well.

Q. Is this the first time that there appears that the Oil and Gas Division had given any approval of the well?

A. I thought they were on the other job, but I don't [1822-676] see nothing in here. I couldn't say yes or no to that.

Q. As far as this report is concerned, is this the first indication of approval by the Oil and Gas Division? A. Yes.

Q. All right, proceed, then what happened?

A. Well——

Q. Then what did you do next?

A. Drilled out cement and tailpiece-bottom of cement at 7,505.

Q. What was the purpose of that?

A. That tailpiece?

Q. Trying out that cement and tailpiece?

A. We had to clean that out so we could get to the bottom of the hole.

Q. For what purpose?

A. To set casing. You drill that out and then clean out the bottom and scrape walls to $7\frac{5}{8}$ inches.

Q. What were you doing now by these operations; what were you preparing the well for, if anything? A. To bring on production.

Q. To bring it on production? A. Yes.

(Deposition of Henry Earl Sweetser.)

Q. All right, then, what else did you [1822-677] do?

A. Then landed 233 feet of 4 $\frac{3}{4}$ -inch 16 pound seamless grade C Range 3 casing at 7,688.

Q. What does landing a casing mean?

A. Well, the top of the liner you have a hanger which has slips in it and when you get in the hole you turn it and engage these slips and that sets it and hangs the liner in the bottom of your water strain. In other words, it suspends it, you know, if you turn it loose in there you are liable to have a dog-leg in it.

Q. What do you mean by a "dog-leg"?

A. Some of these holes are drilled kind of crooked or have holes in them and you leave your pipe loose in them and the pipe will kick out wherever the least resistance is.

Mr. Scofield: I request that the report mark the drawing, which I am handing the witness, as Applicant's Exhibit 28 for identification.

Q. (By Mr. Scofield): Do you have 28 before you, Mr. Sweetser? A. Yes.

Q. Will you compare the showing on the drawing, Exhibit 28, and state whether or not that indicates or shows the condition of Community Number 1 oil well on January 15, 1940?

A. This is with the packer sitting in the hole? [1822-678]

Q. Yes.

A. As far as the figures and everything, they

(Deposition of Henry Earl Sweetser.)

are all correct, as far as this report here. (Indicating.)

Q. That is, you have compared it?

A. All I have got to go by is this report here. (Indicating.)

Q. That is what I am asking you to do. I'm asking you to compare the drawing with the report, the Exhibit 17, if you have that before you, and I believe that the report of the condition of this 28 appears on what page? A. 17C.

Q. On 17C? A. Yes.

Mr. Lyon: Let the record show that it is calling for secondary evidence and incompetent, irrelevant and immaterial.

Q. (By Mr. Scofield): Now, what was done after this date?

A. On the 16th it was drilled out cement and tailpiece-bottom of cement at 7,505. Cleaned out to bottom.

Mr. Lyon: That has already been asked and answered once.

Q. (By Mr. Scofield): You have indicated that was done to prepare the well for production, have you not? [1822-679] A. That is right.

Q. All right, now, let's go down to January 18th.

A. Well, put the tubing in the hole at 7,688 ft.

Q. What was the purpose of putting the tubing in the hole? A. To acidize it.

Q. Why were you intending to acidize this well?

Mr. Lyon: Objected to as entirely immaterial.

(Deposition of Henry Earl Sweetser.)

Q. (By Mr. Scofield): Go ahead.

A. Acidize a well is to get your lime deposits down there and the acid eats them up. A lot of people figure that they do the wells good by eating the mud out of the formation with this acid immediately behind your casing.

Q. Was it done on this well? A. Yes.

Q. What was done after that?

A. Well, swabbed the 19th.

Q. What did you do that for?

A. To bring the well in, flowing.

Q. To do what?

A. To bring the well in. [1822-680]

Q. That is, to produce the well?

A. That is right. On the 21st, turned to tanks.

Q. And what does that mean "turned to tanks"?

A. Producing oil. You want to save that oil, to sell it.

Q. You mean that you were taking the oil from the well to the tanks? A. Yes.

Q. I show you a drawing which I have requested the reporter to mark Applicant's Exhibit 29 for identification, and will ask you to compare it with the report which you have before you and state whether or not the drawing shows a condition of Community Number 1 on January 18, 1940?

Mr. Lyon: Objected to as calling for secondary evidence. The report itself is the best evidence. The witness says he has no independent recollection of these factors and is leading and suggestive; incompetent, irrelevant and immaterial.

(Deposition of Henry Earl Sweetser.)

A. This is on the 18th?

Q. (By Mr. Scofield): Yes, on the 18th of January.

A. As far as I know, it looks like it.

Q. Have you made the comparison, Mr. Sweetser? A. Yes, with 1-18-1940. [1822-681]

Q. Do you find the drawing to show what the condition of the well was on January 18, 1940?

A. Yes. There is only one thing that I don't find on any of those pictures.

Q. What is that?

A. And that is those scratchers that was installed, why doesn't it show?

Q. That is what I was going to ask you about. Where were the scratchers installed?

A. At the bottom of the pipe.

Q. Now, is there any indication on this report of any scratchers?

A. Not on this, they wouldn't be. (Indicating.) I wouldn't think because you don't turn those centralizers and scratchers into DOD. I never have.

Q. Was that an unusual tool to use on this particular casing?

A. I would say it is unusual. The first time I ever ran them and first time I ever saw them.

Q. Do you think it was unusual then to use them on this particular well?

A. Well, I would say to that question that there isn't anything unusual in the oil business.

Q. Well, is there anything in this report that indicates that scratchers were used on [1822-682]

(Deposition of Henry Earl Sweetser.)

the well? A. No, they wouldn't be.

Mr. Lyon: That is objected to on the ground that the report speaks for itself.

A. They wouldn't be, I don't think, because, you see, these reports that were made out and turned in to the Mining Bureau, were taken off of my records. I had to make them up to be turned in and I wouldn't put, I don't do it yet, centralizers or scratchers on there.

Q. (By Mr. Scofield): Why don't you?

A. Well, they don't require it.

Q. Is that any reason for leaving them off?

Mr. Lyon: Just a moment. I object to the matter of the cross-examination of your own witness. What are you trying to do, impeach him again?

Mr. Scofield: Answer the question.

Mr. Lyon: The witness has answered the question that they don't require it and he doesn't do it.

Q. (By Mr. Scofield): Answer the question, please?

A. They always do it short way. We don't put down any more than we have to.

Q. Did you put a report of these scratchers down on the original log of this well?

A. I don't know. I don't remember. [1822-683] couldn't answer that question truthfully.

Q. Well, would you, normally?

A. I do now.

Q. You do now?

A. The oil business is a whole lot different today than it was then, I will tell you, because there is

(Deposition of Henry Earl Sweetser.)

more to drilling an oil well. They used to just drill an oil well in the ground and if we got an oil well we was lucky to get oil wells them days, because you just drilled them and that is all there was to it.

Q. Have you talked to the parties in [1822-684] this controversy with regard to this Community Number 1 well on any occasion before giving your testimony today; and you can refer first, if you want to, to Mr. Hall; have you talked to him on any occasion before this?

A. Yes, I talked to Mr. Hall.

Q. When was that?

A. Several months ago. I couldn't recall the date.

Q. Where did you talk to him?

A. Castaic.

Q. What was the substance of the conversation?

A. Oh, they wanted an affidavit and they wanted to know what kind of scratchers we was running and I think I told him at the time there was a scratcher hanging up on the post down in the yard, down there at Long Beach, that might have looked like them, but I couldn't tell you whether it was or not.

Q. Who was with Mr. Hall; anybody?

A. Oscar.

Q. Oscar Gay? A. Oscar Gay.

Q. Did they inquire from you anything else concerning this well besides what scratchers were used? A. No, I don't think so.

Q. Ask you anything about the crew?

(Deposition of Henry Earl Sweetser.)

A. They asked me the crew's names. They got the crew's names from me.

Q. You gave them the crew's names, did you, at that time? A. Partially.

Q. Did you give them——

A. I couldn't give them all because I wouldn't know.

Q. You gave them what you remembered?

A. What I could remember. Two or three men, I think was all.

Q. Did you give them an affidavit?

A. No, I don't give an affidavit to nobody.

Q. Now, when next did you talk to [1822-685] Mr. Hall?

A. I don't recall because, probably, he could answer that question better.

Q. Did you talk to him on any other occasion than when you talked to him in Castaic?

A. I don't know. Did I talk to you on the telephone after that? Outside of the time he was down to the house.

Q. Down to your house?

A. Yes, a few nights ago.

Q. When was that or where was that?

A. Down in Long Beach.

Q. What happened on that occasion; what was the conversation?

A. Well, he wanted me to come up and give some testimony here and I told him I would and I didn't come so I had trouble.

(Deposition of Henry Earl Sweetser.)

Q. How did you advise us that you couldn't get here? A. By Bruce.

Q. Bruce Barkis? A. Yes.

Q. On what occasions have you talked with either Mr. Barkis or Mr. Wright concerning this Community Number 1?

A. Well, I have talked to them a few times and I told [1822-686] them, just like I told Mr. Hall, I didn't want to be involved in a lawsuit. I think you can ask them that and they will tell you.

Q. What I am doing is getting your version of it, just as to what you recall, concerning these conversations, both with Mr. Hall and with Mr. Barkis and Mr. Wright.

A. They asked me what I could remember and I couldn't remember much of anything as far as Mr. Hall is concerned because, you know, you have got to have the things that happened that far ago; you are pretty good if you can just pick out of the air and remember things.

Q. What did you tell Mr. Hall and Gay about this scratcher that was hanging on the fence down here in Long Beach?

A. I told them I thought it might look like one, but I don't know that. It could be one of them or not because I couldn't tell you what that scratcher looked like and tell you the truth about it.

Q. Whose yard did you direct them to?

A. Harley-Kelley's yard, which had no bearing on the Thomas Kelly.

Q. They are a different outfit?

(Deposition of Henry Earl Sweetser.)

A. Different outfit; no relation.

Q. Do you have any interest in this [1822-687] controversy at all? A. I have not.

Q. Have you been paid anything by either side?

A. No, sir. In fact, by golly, it is doggone bad thing for me. I have got a well now right down at Castaic that is waiting on me.

Q. Now, do you recall how it happens that scratchers were selected to be used on this pipe; did you have anything to do with that?

A. Well, I think, they had called on us and I think Mr. Graser called on us. And with Mr. Lawrence Kelly they sat down there. I don't know who was the instigator of it.

Q. Did you favor using them? A. No.

Q. Well, who actually passed upon the equipment to be used?

A. I think L. C. Kelly was the one. I think Bruce Barkis or Mr. Wright there talked him into running them. I don't know which one of them.

Mr. Scofield: That is all the direct examination.

Cross-Examination

By Mr. Lyon:

Q. Mr. Sweetser, state whether or not it is true that the scratchers were mounted on a casing according [1822-688] to the specific direction of Mr. Kenneth Wright?

A. They were because I had nothing to do with it.

(Deposition of Henry Earl Sweetser.)

Q. Mr. Wright was there and directed how they be mounted, wasn't he?

A. Him and Mr. Barkis, both of them were there.

Q. Do you have any independent recollection of your own as to how they were mounted on the pipe?

A. No, I do not.

Q. Do you have any independent recollection of the joint of the casing upon which the scratchers were mounted? A. No.

Q. Do you know whether it was near the bottom of the wall or——

A. I know it was near the bottom.

Q. Do you know whether it was above the shoe or how far? A. Above the shoe of the casing?

Q. Yes.

A. Well, I think they would be, some part of them would be on the joint.

Q. And do you know how far up they were rammed?

A. How far they came up the hole, I couldn't tell you that, but there were quite a number of them put [1822-689] on.

Q. You have no recollection of how many?

A. Probably would be somewhere around 20, 25. Now, as far as I am concerned, that is just as far as I can recollect. I don't know how many there were.

Q. I am just straining your recollection, that is all. Let me ask you one simple question——

A. You fellows know how many there were. I don't know.

(Deposition of Henry Earl Sweetser.)

Q. Let me see if we can't ask you just one simple question. Is there anything in this Oil and Gas Division report which shows any more positive evidence of water shutoff on January 6, 1940, or on January 15, 1940?

Mr. Scofield: Do you understand the question?

A. When was the first one?

Q. (By Mr. Lyon): January 6th and January 15th was the second test?

A. Well, I would say—I would answer it this way: Anytime that I am in doubt they get re-cemented.

Q. Well, now—— A. In other words——

Mr. Scofield: Let him finish his answer.

Q. (By Mr. Lyon): Go ahead. [1822-690]

A. In other words, I cemented wells up that only showed, you know, 400 or 500 feet rise, but that wasn't no proof that they were wet.

Q. And there is no proof in this record that on January 6, 1940, that this is a wet well?

A. No, there is no proof of it. I have no proof of it, and another thing, I have had wells, by golly, that I have drilled and showed they were dry and put them on and they were wet.

Mr. Scofield: Go ahead and finish your answer.

A. The Mine Bureau comes out and tells you you have got to shut off. I have got one on my hands I just completed, I had an absolutely perfect shut off and I still got a well cutting 50 per cent.

Q. (By Mr. Lyon): As far as the Mining Bureau was concerned you got approval of shut off?

(Deposition of Henry Earl Sweetser.)

A. I got approval and as far as I was concerned it looked all right.

Q. And still it was a wet well?

A. And still cutting 50 per cent. I would have gambled on that well being dry.

Q. There is nothing in this Mining Bureau report, this Exhibit in front of you which shows really whether there was a water shutoff at any time, is there? [1822-691]

A. No. I will tell you, these oil wells are like a woman, they are fickle.

Mr. Lyon: That is all.

Redirect Examination

By Mr. Scofield:

Q. In case of this Community Number 1, after your first cementing job, you were in doubt about it?

A. I am always in doubt where we get any rise.

Q. And you got a rise here, did you?

A. Yes, we had a rise, the records show a rise.

Mr. Schofield: That is all.

Recross-Examination

By Mr. Lyon:

Q. And after you recemented it you had a rise, too, didn't you? A. Sure.

Q. So you were in doubt about a water shutoff then, weren't you? A. Yes.

Mr. Lyon: That is all.

A. Rise don't prove nothing. [1822-692]

* * *

JESSE E. HALL, SR.

(Recalled)

Recross-Examination

By Mr. L. E. Lyon: [1934]

* * *

Q. (By Mr. L. E. Lyon): I would like to have you review this correspondence, Exhibits 194 to 205 for identification, together with those three communications which are referred to and which are in evidence as Exhibits CU-1, CU-2, and CU-3, and advise me, Mr. Hall, if that constitutes the entire correspondence had between you and Mr. Scofield or your sons and Mr. Scofield between June and November of 1945 with [1941] reference to the filing of a second application which became application Serial No. 627,013.

The Witness: What is the question?

(Question read by the reporter.)

A. Some of these letters I have never seen before until this day. I do not know the contents. They are rather lengthy. I don't want to change the bearing in no means by testifying that I knew of their dates or anything about them. I only see here one letter that was sent to me, and possibly two, in this bunch. I recall something of discussing the matter of foreign countries, whether to file them, and that letter received is the only one, except the one that I written myself, dated July 23, 1945, to Mr. Scofield and it is signed by me.

(Testimony of Jesse E. Hall, Sr.)

As to the chain of correspondence I am not able to testify to anything of any of these things that are records. I don't know what the chain of correspondence was.

The Court: Do you know of any other correspondence than that?

The Witness: I do not, your Honor.

The Court: Insofar as you know that is the complete chain?

The Witness: Well, I didn't know of this correspondence.

The Court: Insofar as you know, is it?

The Witness: So far as I know, that would be a complete [1942] chain.

The Court: Insofar as you know is that a complete list, Mr. Scofield, of the correspondence?

Mr. Scofield: That is all of the correspondence that passed between us, your Honor.

Mr. L. E. Lyon: I will offer in evidence at this time the chain of correspondence produced pursuant to our demand.

The Court: That will be Exhibits 194, 195, 196, 197, 198, 199, 200, 201, 203, 204, and 205 for identification.

Mr. L. E. Lyon: That is correct.

The Court: Is there objection?

Mr. Scofield: No, sir. I request that the correspondence be substituted by photostatic copies and the letters be returned to me.

Mr. L. E. Lyon: I have no objection, your Honor.

(Testimony of Jesse E. Hall, Sr.)

The Court: So ordered. Received in evidence: Exhibits 194 to 205, both inclusive.

* * *

Mr. L. E. Lyon: I now have before me and I place before the witness that box of correspondence, also produced in accordance with our demand, which has reference to the 1952, January, 1952, so-called royalty demand letter, from which I have subtracted certain correspondence as typical of that contained in the box and which I will offer in evidence at [1943] time, having been produced pursuant to our demand.

The first letter I am offering is that of January 30, 1952, to Havenstrite Oil Company, to which is attached the letter of January 21, 1952, written by the Havenstrite Oil Company to Mr. Thomas E. Scofield; and under which is a letter of January 17, 1952, which is a copy of the \$2.50 royalty letter, together with the registry receipt, and ask that that correspondence be received as Defendants' Exhibit next in order.

The Court: Is there objection?

Mr. Scofield: No objection, your Honor. And I would like to have it understood with respect to this correspondence that the correspondence be substituted by photostatic copies and the original correspondence returned to me.

The Court: Is there any objection to the substitution of the photostatic copies?

Mr. L. E. Lyon: None whatsoever, your Honor.

The Court: So ordered, the documents received

(Testimony of Jesse E. Hall, Sr.)

in evidence. I assume it is stipulated that they are genuine copies——

Mr. Scofield: They are from my files.

The Court: ——and in all respects what they purport to be.

Mr. Scofield: That is correct, your Honor.

The Clerk: Defendants' Exhibit DH in evidence.

* * *

Mr. L. E. Lyon: And the sub-ones following it.

Next in that series of correspondence I would like to offer the correspondence produced pursuant to this demand with the Sun Oil Company; and in this case I will begin by offering the letter of January 18, 1952, addressed by Mr. Scofield to the Sun Oil Company, Dallas, Texas, purchasing department, which is in all respects a copy of the \$2.50 royalty letter;

The letter of January 24, 1952, written by Robert O. Spurdle, manager of the patent division of the Sun Oil Company, of Philadelphia, Pennsylvania, to Mr. Thomas E. Scofield; and the letter written by Mr. Thomas E. Scofield of February 1, 1952, in response to that letter and addressed to Mr. Robert O. Spurdle, manager of Sun Oil Company, Philadelphia 3, Pennsylvania, and which letter I believe constitutes distinct violation of the injunction which I previously have [1945] handed to the court. It is charged not only as a violation of the injunction but as a distinct act of unfair competition.

The Court: Is it stipulated that the documents

(Testimony of Jesse E. Hall, Sr.)

just offered are genuine and in all respects what they purport to be?

Mr. Scofield: Stipulate to that.

The Court: Any objection to the offer? Received in evidence.

* * *

Mr. L. E. Lyon: Next in the line of correspondence is the correspondence had with the Jarecki International Supply Company, beginning with the letter of January 17, 1952, which is the copy of the \$2.50 royalty demand letter; a copy of the registry return receipt being attached thereto.

Next in that correspondence file is a letter of January 23, 1952, written by George W. Hutcheson, attorney and counselor, Kirby Building, Dallas, Texas, to Mr. Thomas E. Scofield and having reference to the letter previously identified;

And the file then contains letter of February 1, 1952, addressed to Mr. George W. Hutcheson, discussing the issues and stating opinions with reference to this case, without giving statements as to the contentions of the different [1946] parties, and which correspondence I will offer in evidence as the Defendants' Exhibit next in order. And I will agree that photostats may be substituted for the originals.

The Court: Stipulated the documents now offered are genuine and in all respects what they purport to be?

Mr. Scofield: Stipulated, your Honor, that the documents are genuine.

(Testimony of Jesse E. Hall, Sr.)

The Court: Is there objection to the offer?

* * *

The Clerk: Defendants' Exhibit DJ in evidence.

* * *

Mr. L. E. Lyon: The next file which I will offer in evidence is the file produced in accordance with our demand of the correspondence had with the Pure Oil Company and which file of correspondence begins with a copy of the letter of January 12, 1952, addressed by registered mail to the Pure Oil Company, Pure Oil Building, Chicago, Illinois, and which [1947] in other respects is a copy of the \$2.50 royalty demand letter, together with the return registry receipt attached to this letter; a copy of the letter of January 17, 1952, sent to the addressee, Mr. Thomas E. Scofield, 1325 Rialto Building, Kansas City, Missouri, by Mr. J. H. Harmon, Jr., assistant general purchasing manager of the Pure Oil Company at Chicago;

Followed by a letter of January 25, 1952, from Mr. Edward H. Lang, patent counsel for the Pure Oil Company, and likewise addressed to Mr. Thomas E. Scofield at the same address, and bearing Mr. Scofield's "received" stamp of January 28, 1952;

Followed with a letter addressed to Mr. Edward H. Lang of the Pure Oil Company, the Pure Oil Company Building, 35 East Wacker Street, Chicago, Illinois, dated January 30, 1952, bearing the notation: "Dear Ed" and written to that gentleman by Mr. Thomas E. Scofield, together with a letter from

(Testimony of Jesse E. Hall, Sr.)

the Pure Oil Company, signed by Mr. Edward H. Lang, patent counsel, of February 6, 1952, addressed to Mr. Thomas E. Scofield and bearing Mr. Scofield's "received" stamp of February 8, 1952, which file I will offer in evidence as the Defendants' Exhibit next in order and agree that photostatic copies may be substituted in place of the originals.

Mr. Scofield: No objection.

The Court: Stipulated to be genuine and in all respects——

Mr. Scofield: I will stipulate them to be my original correspondence. [1948]

The Court: Very well. Received in evidence.

The Clerk: Defendants' Exhibit DK. [1949]

* * *

Mr. L. E. Lyon: The next file of correspondence which I wish to offer at this time is that with the Magnolia Petroleum Company, Magnolia Building, Dallas, Texas, beginning with a letter dated January 18, 1952, which in all respects, other than the addressee, corresponds with the \$2.50 royalty letter, and which copy has attached to it the return registry receipt from the Magnolia Petroleum Company; the letter from the Magnolia Petroleum Company, Legal Department, signed by Sidney A. Johnson, general patent counsel, for the Magnolia Petroleum Company, dated January 25, 1952, and addressed to Mr. Thomas E. Scofield and bearing his "Received" stamp of January 28, 1952, together with a copy of

(Testimony of Jesse E. Hall, Sr.)

a letter of January 31, 1952, addressed to Mr. Sidney A. Johnson, Magnolia Petroleum Company, Magnolia Building, Dallas 1, Texas, and sent by Mr. Thomas E. Scofield, together with a copy of the reply received from the Magnolia Petroleum Company and signed by Mr. Sidney A. Johnson, dated February 4, 1952, and bearing Mr. Scofield's "Received" stamp of February 6, 1952, which file I will offer in evidence as defendants' exhibit next in order.

Mr. Scofield: No objection.

The Court: Do you stipulate?

Mr. Scofield: I will stipulate that the correspondence is from my file.

The Court: It is received in evidence. [1950]

The Clerk: Defendants' Exhibit DL in evidence.

* * *

Q. (By Mr. L. E. Lyon): Mr. Hall, I place before you a [1951] letter, Exhibit SS, being a letter from Mr. Foote to Mr. Houghton of December 5, 1947, and call your attention to the fourth paragraph of this letter, which reads—

The Court: Is that an exhibit number?

Mr. L. E. Lyon: Yes, your Honor, Exhibit SS in evidence.

Q. (Continuing): —which reads:

"During a recent discussion of the Multi-Flex scratcher, Mr. Hall, of Weatherford Spring Company, maintained that when the Multi-Flex scratcher was used in a well, the bristles would assume the position shown at the left of photograph

(Testimony of Jesse E. Hall, Sr.)

No. 1 and that when this occurred, it would be an infringement of one of his allowed claims.”

And I will also place before you Exhibit K which is a photostatic copy of the No. 627,013 file wrapper and will refer you to the action of the Patent Office dated October 7, 1947, in which it is stated that Claims 1, 2, and 3 are allowed, and further states Claim 7 is allowed, and states: “Appeal must be filed in accordance with Rule 63 with respect to Claim 12, indicating a final action,” and will ask you if it is one of those Claims, 1, 2, 3, and 7, which you referred to in your discussion of this matter with Mr. Foote or Mr. Vollmer, the person who actually wrote Exhibit SS and is referred to in paragraph 4 of this letter.

A. I don't recall discussion with him stating a claim, [1952] any one of the claims, infringed. There was a discussion of the spiral central—or of the Multi-Flex, that it would come under the function and under the claims as well as I remember. I don't know who discussed it, but that that would come under them. I don't know as there was ever any point made about an infringement, because I never was much concerned about the [1953] Multi-Flex.

And I would believe and I would say that any one of three claims that it would come under. My opinion is that it comes under any one of the three claims.

Q. Any one of which claims, No. 1, 2, or 3?

A. Any one of the three claims that now stand allowed. I haven't examined these claims.

(Testimony of Jesse E. Hall, Sr.)

Q. That is, I am talking about the claims which were in the Patent Office as of December 5, 1947, and which I referred to in the 627,013 application as having been indicated as claims 1, 2, 3, and 7 were allowed; and I asked you which one of those claims you referred to in this conversation had with Mr. Vollmer, referred to in Mr. Foote's letter that the Multiflex would be an infringement of one of the allowed claims?

A. I don't have any recollection of discussing these claims that you are talking about here. I have recollection of discussing the three claims that now stand allowed.

Q. Now, let us go back to December 5, 1947, because the claims that you are talking about and which are now 23, 24, and 31 of the 55,619 application were not even in the Patent Office on December 5, 1947, and your statement is that you have no recollection but you can't tell me now which one of the claims that you pointed out that you believed were infringed, to Mr. Vollmer at that time.

A. No. If I discussed with him at that time, I can't [1954] point out which one, other than the broad art in the situation.

Q. Did you have a copy of the supposedly allowed claims at the time that you were discussing this matter with Mr. Vollmer or Mr. Foote prior to December 5 of 1947?

A. I don't believe so. [1955]

ROY G. BOWERSOCK

called as a witness by the plaintiff and plaintiff-intervenors, being first duly sworn, was examined and testified as follows:

* * *

The Clerk: Will you state your name, please?

The Witness: Roy G. Bowersock.

Direct Examination

By Mr. Scofield:

Q. Where do you reside, Mr. Bowersock?

A. At Ft. Worth, Texas. [1996]

Q. Briefly give your educational qualifications.

A. I am a graduate in accounting from Ohio State University, Certified Public Accountant, and have had 23 years of industrial and public accounting experience.

Q. Give your employment after your graduation from Ohio State up to the present.

A. 1930 to 1931—1930 to 1933, three years, with a public accounting firm known as the Konopak, Hurst & Dalton in Toledo, Ohio. Then I served one year as an examiner for the Ohio State Personal Property Tax Division; three years in industrial accounting as comptroller of The Berdan Company of Toledo, Ohio; and from 1937 to January 26, 1953, I was an accountant with Arthur Young & Company, serving 13 years of that time in Toledo, Ohio, and three years in Tulsa, out of the Tulsa, Oklahoma, office. Since January 26th I have been employed by

(Testimony of Roy G. Bowersock.)

Mr. Jesse E. Hall, Sr., of Weatherford, Texas as accountant.

Q. Have you had occasion to work on the books of either the Weatherford Oil Tool Company or the Weatherford Spring Company?

A. Yes. While I was with Arthur Young and Company I was in the capacity of a supervising accountant and supervised the audit of the Weatherford Oil Tool Company. I also had a great deal to do with an income tax examination of Mr. Jesse E. Hall, Sr., for the years 1947 and 1948, and as [1997] a consequence have become familiar with his records, in addition to what familiarity I attained through the audit of Weatherford Oil Tool Company, it having succeeded to his business.

Q. Where was this audit of the Weatherford Oil Tool Company made?

A. Principally at Weatherford, Texas; partially at Houston, Texas.

Q. Did you also make an audit of the Weatherford Spring Company books?

A. Not a complete audit, no; only insofar as it was necessary to ascertain figures leading into the Weatherford Oil Tool Company and also the other companies that took over part of his business, such as Weatherford Manufacturing Company, and Parker Industrial Products Company. However, as I said, in connection with income tax examinations for Mr. Hall, why, I have gone into his records more extensively.

Q. In the audit of the Weatherford Oil Tool

(Testimony of Roy G. Bowersock.)

Company did you have occasion to examine the sales records of that company? A. Yes, sir.

Q. What do those sales records constitute?

A. The sales are—well, I will first start off and say that, in addition to the copies of the invoices which go to customers, the Weatherford Oil Tool Company maintains two [1998] files of invoices; one file is by customer's name and the other file is a strictly numerical file of invoices.

Now, in the case of Weatherford Spring Company's books, I will say that there was yet another set of invoices which was filed as they were paid and used as part of the paid accounting records. [1999]

Q. (By Mr. Scofield): Did the Weatherford Oil Tool Company, besides having invoices showing the sales of their products, have journals and ledgers?

A. Oh, yes, surely. In the case of the Weatherford Oil Tool Company, the sales were entered in a sales journal and from there are transcribed, in totals for the month as a rule, or in some cases in detail with respect to the individual accounts, transferred to the general ledger and to the accounts receivable ledger.

Q. Did you find in the records of the Weatherford Spring Company invoices indicating sales?

A. Yes, sir.

Q. Did you find in the records of the Weatherford Spring Company journals and ledgers?

A. Yes, sir.

Q. Now, do the records, that is, the ledgers and the journals, indicate—I am speaking now of the

(Testimony of Roy G. Bowersock.)

Weatherford Spring Company—the ultimate customer to whom the sales are made?

A. In some cases they do. You mean the ultimate user?

Q. Yes, the ultimate user.

A. They indicate the customer—in some cases they do and in some cases they don't. There are sales made direct to the ultimate user and, in addition to that, there are sales that are run through supply stores and in those cases [2000] the general records only reflect the supply store name and do not show the ultimate user.

Q. Now, with regard to the ledgers and sales journals of Weatherford Oil Tool Company, do those books indicate the ultimate user or the customer to whom the sale was made in every case?

A. No. They do not. They do not. As a general rule, the only thing reflected on the general books is the supply store through which the merchandise is billed. In other words, if a sale is made to Gulf Oil Company, let us say, it might be billed through National Supply Company or Continental Supply Company or some other supply store, and that is the only name that will appear on the general records of the company, and Gulf Oil's name would not so appear. It would be shown, however, on the invoices.

Q. Were you requested by me to prepare a schedule of sales over a given period of time, of a selected number of these companies?

A. That is right. I was.

(Testimony of Roy G. Bowersock.)

Q. Did you prepare such schedules?

A. Yes, I prepared it. And let us put it this way, they were prepared under my supervision.

Q. Now, limit your answer to the Union Producing Company, and I would like to have you explain how the schedule of the Union Producing Company was prepared, the schedule of [2001] sales of scratchers and centralizers.

A. Because of the fact that there might be sales through a supply store in addition to the ones that were directly billed, I caused an analysis to be made of the chronological file of invoices; in other words, rather than taking the invoices that are filed away by names of customers, which would only reflect those included in the supply-store names and that sort of thing, we took the files of the chronologically arranged copies and we went through those, analyzing, looking at each one of those and picking out the sales that were made to that particular company, whether or not it was a billing direct to that company or a billing to some supply company with the name indicated on the invoice.

Now, in the case of Union Producing Company, it was a company that was billed direct down through the history of the Weatherford Spring Company, and in Weatherford Oil Tool's case it was billed through supply stores.

Now, we listed in detail those invoices and then we summarized the totals for the month, and those are the schedules that you are referring to. Then we proceeded to make a chart from it.

(Testimony of Roy G. Bowersock.)

Q. Now, what did you mean in your answer preceding by the term "billed direct"?

A. In other words, in the case of Union Producing Company, the sales during the period which you requested [2002] here were billed direct to Union Producing Company and did not come through any supply store during the period prior to December 15, 1948. After that date, it was billed differently by Weatherford Oil Tool Company.

Q. In the preparation of this schedule of sales as to the Union Producing Company, you have indicated that you used only invoices. Why did you do that?

A. Well, because that is the only way we had of really knowing who the ultimate user was.

Q. Did you have the journals and ledgers available? A. Yes.

Q. But you used the invoices in the preparation of this schedule?

A. Well, I did, but I test-checked those journals back to the direct billings to any of these companies.

The Clerk: Mr. Scofield has handed to me, your Honor, copies of Exhibits 176, 176-A, 176-B, and 176-C, for your use.

The Court: Is there any objection to the court's making use of these exhibits?

Mr. L. E. Lyon: None, your Honor.

Q. (By Mr. Scofield): You have before you the schedule marked for identification Exhibit 176?

A. I do.

(Testimony of Roy G. Bowersock.)

Q. Please explain what this schedule is.

A. The first three pages, numbered S1, S2, and S3, are [2003] summarization, and the remaining pages in here, numbers 1 to 8, are the detail of invoices for sales made to the Union Producing Company of scratchers and centralizers, and these were sales made by Weatherford Spring Company and by Weatherford Oil Tool Company.

Q. Referring first to the fourth page of the schedule, which is marked in the lower right-hand corner with the numeral 1, what are the dates that appear in the left-hand column?

A. Those are dates of invoices which we found of shipments to Union Producing Company.

Q. And are the month and the day of the month and the year indicated? A. That is right.

Q. Now, the first column to the right, what does that column contain?

A. Well, that column is headed up on that page, "Invoice number," but that is a misnomer with respect to pages 1, 2, 3, and 4. It is all right with respect to the balance of the sheets. Actually, during the existence of Weatherford Spring Company, there was no invoice number placed on these invoices, and the number referred to there is an identification number that appears on the invoices and it will be in all cases one of three items. It will either be delivery ticket number or the work order number or it will be the customer's purchase order number. [2004]

And where they are indicated "D/Ts" for deliv-

(Testimony of Roy G. Bowersock.)

ery tickets; "W/O" for work orders, and no indication of the customer's purchase order. It was only put down as a matter of identifying should it be necessary to go back and to check up or to explain to another auditor the billings here.

The Court: The "C/M" indicates credit memorandum?

The Witness: That is right.

The Court: "W/O" work order; that is "W/O."

The Witness: Yes.

The Court: And "C/M" and "D/T." "D/T" indicates delivery ticket?

The Witness: Right.

Q. (By Mr. Scofield): Do I understand your testimony to be, during the period that scratchers and centralizers were sold by the Weatherford Spring Company that there was no invoice number used? A. That is right.

Q. What period of time does that cover?

A. Up to December 15, 1948. In the case of the invoices which you see down here, commencing after December 15, 1948, there was a very short period there, I think maybe only that half a month, when Weatherford Oil Tool didn't have any numbers on their invoices; but they substantially commenced right at January 1st of '49 to put invoice numbers on.

Q. And thereafter did the Weatherford Oil Tool Company [2005] have invoice numbers?

A. That is correct.

(Testimony of Roy G. Bowersock.)

Q. To identify their invoices?

A. That is correct.

Q. How did you use these delivery tickets in the preparation of this schedule? You might first state what a delivery ticket is.

A. Well, a delivery ticket is a small slip or memorandum which usually accompanies the merchandise or invoice that accompanies the merchandise. It is receipted by the customer. One copy will be receipted by whoever receives the merchandise and will be returned, and a copy will go into the office for use in billing the merchandise. And from the delivery ticket—the delivery ticket, of course, indicates who the ultimate user was—and from that delivery ticket number is gotten the name of the user and that is put down on the invoice.

Q. Did the delivery ticket accompany all of these invoices that appear on the schedules?

A. No. There are many cases of consigned goods where there was no delivery ticket. In such case there would be a purchase order issued or some other memorandum of sale from consignment merchandise issued by the supply store or other person with whom the merchandise was on consignment, and that purchase order then became the method used for [2006] charging out on the invoice.

Q. What are the work orders that you have listed here in this first column on a few occasions?

A. The work orders came into existence mostly at times when all of the merchandise was not available to fill the order and, as a consequence, work orders were set up; and in some cases the work

(Testimony of Roy G. Bowersock.)

orders for the material was manufactured through work order for that order, and in other cases it was partially filled at the plant and partially brought in from some place else to fill the order; and there are some cases where there is no delivery ticket number we used the work order that was indicated.

Q. And what is the abbreviation "C/M" and how was that used in this schedule?

A. Well, "C/Ms" are credit memorandums and they have been indicated—the amounts involved have been indicated by a figure in a circle, or I believe you will find in some schedules—not this particular one—but you will find in some schedules where a bracket was used. In any event—yes, a bracket was used on page 6, the numbered page 6 of the detail. In the month of July, 1949, a bracket is shown. In any event it indicates that that amount is deducted rather than added.

Q. On the first page of your detail list there is the word "additional" during the month of April, to the left of [2007] the first column. What is the significance of that notation? That is on page 1 of your detail.

A. That is a correction of a prior invoice and there was no quantity involved on that. It is merely just they charged the customer an additional \$24.75. It is the opposite from a credit memo.

Q. In the second column of your detail schedule what is indicated?

A. Following invoice number is indicated cen-

(Testimony of Roy G. Bowersock.)

tralizers, and those are the dollar sales of centralizers.

Q. And what is indicated in the third column?

A. Scratchers, the dollar sales of scratchers; and then in the final column is the total centralizers and scratchers.

Q. What period of time does this detail schedule cover?

A. From January 1, 1946. It covered from January 1, 1946, to October 31, 1953.

Q. Now, indicate, if you will, how the summary was prepared. You might first state where the summary is, that is, how it is designated in this Exhibit 176.

A. The first three pages here are indicated S-1, S-2 and S-3. Those are the summaries and they indicate the sales by months, with the exception of December, 1948, on S-1, has a half month on this first page and another half month on S-2, that being the sales the time that Weatherford [2008] Oil Company made the sales.

The other months are summarized by months. I will call attention to one thing, that is, that the columns here are reversed from that which they are shown on the detail. We have listed scratchers first and centralizers second, and on the detail we showed centralizers first and scratchers second.

We listed these centralizers and scratchers merely as a matter of convenience, because they are usually shown that way on the invoices. You, however,

(Testimony of Roy G. Bowersock.)

asked me to summarize them differently and that is the reason that was done.

Q. Now, I would like to have put before you the chart, 176-A, and indicate, if you will, how this chart was prepared.

A. This chart reflects dollar value of the scratcher sales made to Union Producing Company by both Weatherford Spring Company and Weatherford Oil Tool Company. At the left side of the chart the dollars are shown and the line divisions here are marked "500, 1,000, 1,500, 2,000," etc.; and those across the bottom here indicated the years and the months in the years. From that we took the total sales and plotted it on this chart for any given month during that period, and then that blacked-in the chart and that represented the sales for the period reflected in chart form.

Q. From what schedule was Exhibit 176-A taken? Was it taken from the detail; was it taken from the summary? [2009]

A. It was taken from the summaries, pages S-1, S-2 and S-3 of Exhibit 176.

Q. I would like to have you put before you now the chart, Exhibit 176-B, and explain what that shows.

A. Exhibit 176-B was prepared in exactly the same fashion as 176-A, and it reflects the dollar value of centralizer sales made by Weatherford Spring Company of Texas and the Weatherford Oil Tool Company to Union Producing Company. It,

(Testimony of Roy G. Bowersock.)

too, was prepared from the summary figures in Exhibits 176, S-1, S-2 and S-3.

Q. Is the dollar volume shown in the vertical column to the left?

A. Yes, that is shown and the dates at the bottom, in exactly the same manner as the other chart, and with the same gradations; in other words, \$500, \$1,000, \$1,000, etc.

Q. I notice in both these charts, Exhibits 176-A and 176-B, across the top there are arrows indicating "Weatherford Spring Company of Texas" and "Weatherford Oil Tool, Inc." What did you attempt to show by the arrows and the designations I have indicated?

A. That was merely for clarification purposes, to show that the sales during the periods indicated were made by the respective companies, namely, Weatherford Spring Company of Texas and Weatherford Oil Tool Company. The first arrow goes over to December 15, 1948, and all of those sales are Weatherford [2010] Spring Company of Texas, and those from then on are Weatherford Oil Tool Company, Inc.

Q. And there is a horizontal dotted line across the charts designated "Average sales per month from February, '47, through '49." How did you arrive at that?

A. Well, for that particular period we computed the average monthly sales by adding all the sales together and dividing by the number of months during the period, and it came out to \$1,407 in the

(Testimony of Roy G. Bowersock.)

case of the scratchers; and that dotted line was shown to indicate such average.

Q. What does the chart 176-C show?

A. 176-C represents a combined chart of both scratchers and centralizers, prepared in exactly the same fashion as 176-A and 176-B, to reflect the combined sales, as I said, of scratchers and centralizers made by Weatherford Spring Company of Texas and Weatherford Oil Tool Company to Union Producing. It, too, has the same dollar gradations and the years and months in the same fashion.

Q. From what schedules was this chart prepared?

A. Prepared from the summaries, S-1, S-2, S-3 of Exhibit 176.

Q. Do these schedules and charts, Exhibits 176, 176-A, 176-B and 176-C, in your opinion, show a complete picture of the purchases of the Union Producing Company of scratchers and centralizers during the period covered by the schedules? [2011]

A. Well, it shows a complete picture of the purchases of scratchers and centralizers insofar as these two companies are concerned; but it would not reflect the complete sales made by everybody to that company. In order to do that you would have to know what purchases were made by it from other people handling the same type of merchandise.

Q. That is, in order to get a complete showing of the purchases of scratchers and centralizers of the Union Producing Company over the period of these charts and schedules you would have to have

(Testimony of Roy G. Bowersock.)

such sales records of other companies who sold that company the same products?

A. That is right. [2012]

The Clerk: Here are copies of Exhibits 177, 177-A and 177-B for the court's use, your Honor.

The Court: I assume there is no objection to the court's making use of Exhibits 177, 177-A and 177-B for identification?

Mr. L. E. Lyon: No, your Honor. I have no objection to the court's having all the series of exhibits, 177 up to the subdivision of Exhibit 182, which I believe is the last one, and I am willing to stipulate that this witness will testify that those records were compiled in the same manner as he has testified concerning the Union Producing Company and from the same source of records and only that same source of records.

Mr. Scofield: I accept the stipulation and I think that will shorten the examination of this witness considerably.

The Court: Then what we have been over is the procedure in the compiling of Exhibits 176, 176-A, 176-B and 176-C covering the customer, Union Producing Company, is that correct?

Mr. Scofield: That is correct.

The Court: Now, as I understand, the stipulation is that the witness will testify that a similar procedure and similar way of obtaining information from the identical source was followed with respect to Exhibits 177, 177-A and 177-B, dealing with the

(Testimony of Roy G. Bowersock.)

customer, Gulf Oil Corporation. Is it Gulf Oil Corporation? [2013]

The Witness: Yes, sir.

The Court: And likewise with respect to Exhibits 178, 178-A and 178-B, dealing with the customer, California Company, and with respect to Exhibit No. 179, dealing with the customer, The Texas Company, which includes also Exhibit 179-A; and likewise with respect to the customer, Standard Oil Company of California, as shown on Exhibits 180 and 180-A, and with respect to the customer, Amerada Petroleum Corporation—is it?

Mr. Scofield: Yes, sir.

The Court: —as shown on Exhibit No. 181?

Mr. Scofield: No. 181, your Honor.

The Court: That is the stipulation as I understand it.

Is that a fair statement of it?

Mr. L. E. Lyon: Yes, your Honor, that is a fair statement of my stipulation.

Q. (By Mr. Scofield): In the case of each of these companies, Mr. Bowersock, do the schedules and charts in your opinion show the complete picture of the sales, of the purchases of scratchers and centralizers, to the individual companies named, during the period covered by the schedules and charts?

A. Was your question “purchases” by these companies?

Q. Yes.

(Testimony of Roy G. Bowersock.)

A. Or sales to them? I understood you to [2014] say "purchases" to these companies.

Q. Purchases by these individual companies.

A. That is correct. It is the same answer I gave a while ago in connection with the Union Producing Company.

I believe these schedules reflect a reasonably correct picture of the sales of scratchers and centralizers or the products indicated in each case, made by Weatherford Spring Company and Weatherford Oil Tool Company, Incorporated, but, of course, it is not the complete purchases of those companies of scratchers and centralizers because of course there would be sales of other people dealing with the same merchandise. It would be necessary to reflect their total purchases from everywhere.

The Court: But these exhibits that we have been mentioning do truly and accurately reflect any sales made to those customers we have mentioned, by plaintiff or plaintiff-intervenors in this case, is that correct?

The Witness: In my opinion, yes, sir.

Mr. Scofield: To supplement papers prepared by plaintiff enumerating the charges of unfair competition, at this time, your Honor, I should like to add the exhibits and the evidence that has already been offered.

The Court: I don't quite understand you.

Mr. Scofield: With respect to the companies—with respect to the charts and schedules which have now been [2015] offered; in other words, in this

(Testimony of Roy G. Bowersock.)

charges of unfair competition which we prepared under your instructions, there was indicated the evidence and the exhibits that the plaintiff would rely upon to substantiate the charges, if you recall.

Now, besides these charts which indicate the loss of sales, I should like to indicate also the exhibits and the invoices which have been offered and are in evidence in this case with respect to these particular companies.

The Court: I assume that all the evidence which has been received in the case relative to that issue would be here on the issue of unfair competition.

Mr. Scofield: It is, your Honor, but I thought that I might, if you please, indicate to you what evidence is in the case now, what has been offered in the way of exhibits and depositions that have to do with these particular companies, if you care to have them.

The Court: Well, yes, or you may reserve it for oral argument. If you are ready to indicate now, you might indicate it, but first I assume that you wish to offer these exhibits which have been discussed here this morning.

Mr. Scofield: Yes, sir, I want to offer them.

The Court: Exhibits 176, 176-A, 176-B and 176-C for identification, do you offer them?

Mr. Scofield: Yes, sir, I offer them. [2016]

* * *

(Testimony of Roy G. Bowersock.)

Voir Dire Examination

By Mr. L. E. Lyon:

Q. There has been handed to me a file of loose-leaf character, having on its face "Checked"—will you read what it says on there?

A. If I can, sir.

Q. That is why I gave up.

A. I take it to mean "Checked 5-20-49," the initials "J.B.E.," "Rechecked against Schedule A, checked against accounts receivable ledger," and then oblique—wait a minute—a bracket? A bracket, let us call it, and then to the right of the bracket, that is, between those last two lines there right at the bracket. "Checked 9-10-49"—I [2018] presume it is a date—and the initials "J.B.E."

Would you like more explanation of that?

Q. Did you read that as "9-10-49"? Isn't it "51," isn't that September 10, 1951, and with your initials after it?

A. No, sir, they are not my initials.

Q. They are not your initials?

A. I believe it is a "5" there, since you mention it.

Mr. Scofield: Where is that, here (indicating)?

The Witness: Right here.

Q. (By Mr. L. E. Lyon): Whose initials are those, do you know? Are you familiar with that handwriting, in any way?

A. It looks like it might be Joel Etter.

(Testimony of Roy G. Bowersock.)

Q. Who was Mr. Etter?

A. He was an accountant for Weatherford Spring Company for some months and then for Weatherford Oil Tool Company until about September 1, 1951.

Q. Do you know when Mr. Etter started in to work for either of these companies?

A. Approximately. July, 1948.

Q. Do you know what Mr. Joel Etter's position was just before he started to work for the Weatherford Spring Company?

A. I didn't know him at that time, but I have been given to understand that he was an internal revenue agent.

Q. In this file that has been handed to me, and the [2019] cover sheet of which you have read, are set forth a series of invoices. Now, do those invoices show sales of both straight and spiral centralizers? Will you look at them?

A. (The witness examines papers.) Not in this folder. I have found no sales of straight centralizers. They are all indicated as spiral centralizers.

Q. I note in the very first or second sheet in this file a ticket or a sheet which is in this case No. 7923, Weatherford Spring Company, Weatherford, Texas, date 12-19, "Ship to Union Producing Co., Box 711, Beeville." Is that Beeville or Bellville?

A. It looks like "Bellville, Texas."

Q. It looks like "Bellville, Texas."

A. The invoice indicates "Beeville."

Q. B-e-e-v-i-l-l-e. And then on that invoice are

(Testimony of Roy G. Bowersock.)

enumerated the following items, under "Classes of Items," I believe, that were for sale at that time, is that what it is, on the right-hand column?

A. Let us put it this way: the usual classes of items.

Q. The usual classes of items that Weatherford Spring Company was making and offering for sale at that time? They may have offered some other special items. Is that what you mean?

A. Presumably, presumably. The delivery ticket seems to be just a—it has these pictures down here alongside of [2020] different types of centralizers and cement baskets and scratchers.

Q. And those items are—the first one in the column is a spiral centralizer, the second one is scratchers divided into two types, standard type and close tolerance type, which is subsequently divided into solid and split? A. Correct.

Q. What do you understand "solid" and "split" to mean, or do you?

A. Well, in the case of a split scratcher, the collar is not welded together, it is open.

Q. Now, then, the next items are straight centralizers, of which there are three classifications, close tolerance type, standard type, and gravel packing type, and in the last class of goods is "cement retaining basket." Now, is that correct?

A. That is right.

Q. Now, I notice on this particular ticket that I have reference to there were 12 7-inch spiral centralizers, and those spiral centralizers, as shown by

(Testimony of Roy G. Bowersock.)

the invoice, were sold at \$33 per centralizer, is that correct? A. That is correct.

Q. And there are 71 7-inch I presume solid type, standard type scratchers sold?

A. Right. [2021]

Q. And those were sold at the rate of \$18.25 apiece? A. That is correct.

Q. And those were net prices as shown by this invoice? A. Yes, sir.

Q. Now, in these tabulations that you have made of sales to the companies as shown by Exhibits 176 to 181, inclusive, in any case did you make any differentiation whatsoever between the type of scratchers or the type of centralizers sold to any of the companies, as to whether they fell into any one or more of these different classes which are enumerated on this invoice sheet which I have referred to, or this delivery ticket?

A. Did I make any differentiation in the type of centralizer or type of scratcher?

Q. That is correct. A. No, sir.

Q. Now, do those tabulations include tabulation of sales of spiral centralizers in some cases and in some cases straight or what is known here as straight centralizers of the close-tolerance standard type and gravel-packing type?

A. If there was a centralizer sold of the straight type or centralizer sold of the spiral type, there would be no difference, it would be all listed, so far as my schedules are concerned, in the classification of centralizers.

(Testimony of Roy G. Bowersock.)

Q. Now, wasn't that also true of the gravel-packing type [2022] of centralizer? Isn't that also included?

A. Undoubtedly it is in there. I don't remember particularly of seeing any. I do know that the cement baskets were not included. If it was called a centralizer on the invoice, my boys undoubtedly included it in there.

Q. And the gravel-packing type of straight centralizer is used in the process of packing gravel in a well, isn't it? Do you know?

A. You can't prove it by me.

Q. You don't know what it is used for?

A. I don't know what it is used for or if for anything.

The Court: Is there any stipulation as to this?

Mr. Scofield: I am sure I don't know. I don't want to stipulate, your Honor.

The Court: Can't you learn from your client?

Mr. Scofield: I can learn from him.

Mr. Jesse E. Hall: It can be used for either purpose, for cementing or in gravel packing.

Mr. L. E. Lyon: And that stipulation may also be extended to all essential portions in there, that they can be either used in cementing or in gravel packing?

Mr. Scofield: I will stipulate to that.

Mr. L. E. Lyon: I will accept the stipulation.

The Court: Very well. [2023]

Q. (By Mr. L. E. Lyon): I wish you would examine this file and see if it does not show a uni-

(Testimony of Roy G. Bowersock.)

form price of \$33 per centralizer for all spiral centralizers or all centralizers sold to the Union Producing Company during the period covered by this file, which is from February 11, 1947, to December 19, 1947. And if you find any variation from that, will you read it? Tell me also if there is a size differentiation, also, at the same time, and I was directing that primarily to the 7-inch centralizers which I believe is the majority of the sales.

A. There is one here which is a 10 $\frac{3}{4}$ -inch centralizer.

Q. And how much is that sale price?

A. \$45.10.

Q. I believe it might be well to place before you this catalog, the 2-1-47 catalog that has the price schedule in the back of it. What exhibit number is that? [2024]

Q. See if in looking through there you find any deviation whatsoever from the price schedule with reference to pipe sizes as shown on page 6 of Exhibit L, Mr. Bowersock? A. No, sir.

Q. There is no deviation whatsoever between the selling price and published list price as shown on page 6 of Exhibit L, is that correct, throughout this period of time of sale to the Union Producing Company?

A. That is right. This page 6 is headed up "Price"—

Mr. L. E. Lyon: I would like to have for the same period of time the original records, for the

(Testimony of Roy G. Bowersock.)

same period of time of sales to the Gulf Oil Company, please.

Q. Did you examine these invoices with respect to sales to receipts from the companies to ascertain what the companies actually paid compared with what is shown by these invoices? A. No, sir.

Q. You do not know, then, that the companies ever paid what is set forth on these invoices, is that correct?

A. Except that, as I told here in my other testimony, that I test-checked to our records, to the general records, and you will find that credit memorandums have been given effect to in these schedules if there were any. I found no discrepancies in my check to the general ledger.

Q. Now, you testified that you examined these books of the Weatherford Spring Company for the Internal Revenue [2025] or income tax purposes, is that correct? A. That is right.

Q. When did you start that examination?

A. At the time I first came into the picture the revenue agents were already examining the records and——

Q. Which agents were those?

Mr. Scofield: Let him finish his answer.

A. And that was approximately—that was the first of June, 1951.

Q. (By Mr. L. E. Lyon): And which agents were those?

A. An agent by the name of Scott and an agent by the name of Parker.

(Testimony of Roy G. Bowersock.)

Q. Of which side of the Internal Revenue, income tax department, did those agents belong?

A. Mr. Parker is an ordinary revenue agent. Mr. Scott is—well, is what we call a S.I. man.

Q. That is? A. Special Intelligence.

Q. Special Intelligence connected with the fraud division, is that correct? A. That is correct.

Q. And when was that that you say you started that examination? A. In June of 1951.

Q. In June of 1951. And at the time that you went [2026] into the picture, why, these two Internal Revenue agents were already examining the books? A. That is correct.

Q. How long had they been examining the books?

A. Well, this is hearsay on my part, but I think they first started December of '50, or maybe in November, the latter part of '50, and they weren't in and out—I mean they were in and out, and not working consecutively on this examination, and they certainly did not work on it practically at all during the summer, because we were making an audit of the other companies and we were in each other's way. As to just how much they had worked on it, and so forth, that is hearsay on my part.

Q. In connection with this examination that you made of the Weatherford Spring Company books was any determination made of a ratio, from the books, of cost of manufacture of scratchers or centralizers to sales price?

A. Do you mean during my audit?

(Testimony of Roy G. Bowersock.)

Q. Yes.

A. As I say, I did not make an audit of Weatherford Spring Company in that respect. I made an audit of Weatherford Oil Tool Company and installed a new cost system for them. I have fostered the cost system all the way through. I would not—I would stand upon my professional immunity in not giving figures of Weatherford Oil Tool [2027] Company unless I had their specific permission.

Q. Did those cost figures that you have used anywhere show any material deviation from the usual rule of three or four to one differential between cost and sales price? A. Yes, sir.

Q. How much? A. Quite a bit.

Q. How much? What was the approximate ratio? I mean in centralizers and scratchers.

A. Well, I am trying to deliberate how far I can go without divulging information that I am not supposed to. Would it be all right if I just say that it was more than five times, the selling price was more than five times the cost?

Q. Well, if you will say it is between five and six times, and not more—more than five, but not as much as six times, that would probably be satisfactory for my purposes at the present time.

A. I won't say that.

Q. Well, all right then. Give me an inside and outside ratio. I am not curious. This is not for the purpose of being merely curious.

A. I would say that, as a general rule, on the

(Testimony of Roy G. Bowersock.)

average it is more than five times and less than 15 times.

Q. Well, that is too much of a spread. Take with [2028] respect to centralizers of the seven-inch type——

* * *

Q. (By Mr. L. E. Lyon): ——spiral type. [2029]

* * *

Q. (By Mr. L. E. Lyon): The question, I believe, before you was: In determining a seven-inch centralizer of the spiral type what was the ratio of cost—and by that I mean total cost—to selling price, the selling price being established in the case of the Union Producing Company for that size at \$33 per scratcher, as shown by these invoices and also as shown by page 6 of Exhibit L, too?

A. In the first place, I don't know for sure what it was. In the second place, I am not too sure to answer without direct order of the judge and advice from my own counsel because of the professional ethics involved. [2031]

* * *

The Witness: I made an examination, your Honor, of Weatherford Oil Tool Company with respect to costs. We checked the costs from the inception of Weatherford Oil Tool Company. We know everything that happened during the existence of Weatherford Oil Tool Company. We could tell exactly what relationship the costs were, provided I had the records here in front of me.

(Testimony of Roy G. Bowersock.)

But I did nothing with respect to Weatherford Spring Company in that examination, other than ascertain that the method of cost was approximately the same carried over one to the other. In consequence, I would be divulging information respecting Weatherford Oil Tool Company at a period when I was in public accounting and making an audit. Nobody has released me nor given me a right to make such divulgence. [2032]

* * *

The Witness: Very well. Allow me to make this statement: I don't remember exactly what the costs were. I know the costs changed during the period that we are talking about here from 1947—yes, this is 1947—from 1947 to date it has changed considerably at different times. And I don't remember what it was at any one time but, for your [2033] information, Mr. Lyon, I will tell you that I have threshed this thing out thoroughly with the agents and that the costs of a seven-inch centralizer, as nearly as we can determine by hindsight, was 10 per cent less than what the charge was to Weatherford Spring Company of Venezuela.

In other words, I found nothing to indicate that the billings of cost plus 10 per cent were not correct. And I have, as I say, already gone through that procedure with the Revenue Department.

Q. (By Mr. L. E. Lyon): Your testimony, then, is that the sale of these scratchers—I mean centralizers, for \$33 net to the ultimate user was on a cost

(Testimony of Roy G. Bowersock.)

basis that the centralizer of that size cost less than \$2, is that correct?

A. I have no reason to believe otherwise. That is correct.

Q. There was a greater than 15 to 1 spread, according to your examination of the books, between cost and selling price?

A. That is not true in whole. It may be true of the particular type of item.

Q. Well, that is true with these seven-inch centralizers? A. Okay; that is right.

Q. Is that correct? A. That is correct.

Q. And that is true irrespective of the weight, type [2034] or structure, is it? They were the types and weights being charged at the same rate of about \$33 a centralizer for a seven-inch size?

A. I don't believe I understand the question.

Q. Well, I say, there was no special structure of any kind that you examined at any time, was there, as reflected by any of these records; it was just the type of seven-inch spiral centralizer as shown, for example, on page 6 of Exhibit L, and it is included in the column of type sizes, price, and weight in pounds as set forth on Exhibit L?

A. I was not around there and, of course, I don't know what they were selling, what kind of centralizer the company was selling back here at the time of this catalogue which is dated 2-1-47; but I do know that the costs were as indicated.

Q. There is nothing shown in your examination of the books of the Weatherford Spring Company

(Testimony of Roy G. Bowersock.)

that reflected any particular or different structure of manufacture than was true of that type of centralizer, and I mean the spiral centralizer of that type; isn't that correct? You did not have any separate cost figures for some modified form or some different form of structure than was shown as the standard sales item of the Weatherford Spring Company?

Mr. Scofield: Do you understand the question?

The Witness: Yes. He has given me with more knowledge than I have. I wasn't around back at that time and there is [2035] nothing in—you understand, Mr. Lyon, that there are no cost——

Mr. L. E. Lyon: I am only asking you about that one question.

Mr. Scofield: Let him finish his answer.

A. There are no cost records such as a normal manufacturing company nowadays has set up of even Weatherford Oil Tool Company, with a place where they can tell you how much it cost to turn the handle of one of their lathes. They didn't have any such cost records. And the only thing you can do in going back in past history like that is attempt to develop a cost by taking the records at that time and the type of operations, and by quizzing people who were there, and arrive at a cost. That is what I have had to do with respect to the revenue agents. And I assure you I have not been able personally to say that we did this and we did that, because I don't know. I wasn't there and I have no written records of it, sir.

(Testimony of Roy G. Bowersock.)

Q. (By Mr. L. E. Lyon): Now, let me ask you this question: There were no records, then, which showed a cost of any particular size or type of scratcher that you examined in the Weatherford Spring Company, were there?

A. No, there was no cost records whatever of the Spring Company.

Q. And then there were no particular cost records [2036] available by which you could determine what the actual cost was by record of the particular scratcher sent by the Weatherford Spring Company of Texas to the Weatherford Spring Company of Venezuela, was there?

A. That is correct insofar as a record is concerned; there was no record there. It could only be determined by—well, of course, there is a record of the cost of materials and a record of the labor rates and that sort of thing from which you could develop, with time studies and subsequent experience.

Q. Did you examine anything which would lead you to believe that there were any weight records kept of the weights of centralizers or scratchers sent by the Weatherford Spring Company to the Weatherford Spring Company of Venezuela in 1947, or to any other customer in Venezuela during that period of time? A. No.

Q. Weren't there shipping records available?

A. Yes, sir.

Q. Did not those shipping records show on them

(Testimony of Roy G. Bowersock.)

the weight by item or the total weight of the shipment? A. Total weight of the shipment.

Q. Did you ever determine what the weight of the articles were that were sent in accordance with those shipping records?

A. I never did; no, sir. [2037]

Q. Did you not consider that total weight or the weight of the item with respect to the cost of materials in determining what the approximate cost of the items were? A. No, sir.

Q. You had figures, you say, which gave you the cost of the materials used at that time?

A. Yes, sir.

Q. What good did the cost of the materials used do if you did not know the quantity of materials used?

A. That is correct. It had to be by—it had to be from the testimony of someone else.

Q. But those shipping records gave you the actual weight, did they not, without relying upon somebody's recollection?

A. As a rule, they shipped scratchers and centralizers together, and different sizes together in a package, and it is difficult to rely on.

Q. Did you take the shipping rates given in Exhibit L, for example, in this column on page 10 of Exhibit L, as the correct shipping weight of the items which were sent, say, to Venezuela at that time in determining these figures of cost?

A. No, sir.

Q. Why not?

(Testimony of Roy G. Bowersock.)

A. Because we had the various types of the different [2038] items available at the plant, the various types of items that the companies had manufactured from the time they started, and by discussion with the people involved in it we were able to establish a price.

Q. Now, you had available records such as this record which I will hand you, which is a sale of the Weatherford Spring Company to the Asiatic Petroleum Company for Venezuelan shipment, which is dated December 1st, 1947, and which contains an actual weight list of the weight of the materials which were sent, being for all of these shipments, did you not? And I will hand you this set of photostats. [2039]

Just a moment. I will ask that the clerk mark these for identification first, there being five sheets of these photostats. I will ask that they be marked defendants' exhibit next in order and divide that into five pieces so each sheet may be separately numbered.

The Court: They may be marked as Defendants' Exhibits DM-1, DM-2, DM-3, DM-4 and DM-5 for identification.

Mr. L. E. Lyon: Yes, your Honor.

The Court: The clerk will so mark them.

(The documents referred to were marked Defendants' Exhibits DM-1, DM-2, DM-3, DM-4 and DM-5 for identification.)

Q. (By Mr. L. E. Lyon): The five sheets that

(Testimony of Roy G. Bowersock.)

I hand to you have been marked Defendants' Exhibits DM-1 to DM-5, inclusive, for identification, and I am returning them to you so that we may add to the question that is before you, and that is, were there not records of this type available with respect to all shipments made to Venezuela in the year 1947, giving the precise shipping weights, the prices, the customer, and all other factors as set forth in Exhibits DM-1 to DM-5, inclusive? [2040]

* * *

A. I can read only about half of the material that is on these things given here.

Q. (By Mr. L. E. Lyon): The question before you, Mr. Bowersock, is only one question, which is with respect to these tabulations that you have made, did you have the records of the Weatherford Spring Company available to you for the sales of the same character as shown by Exhibits DM-1 to DM-5, inclusive?

A. Yes, we have records available. This happens to have quotations and——

Q. And did those records set forth the shipping weights, the actual shipping weights, as this record does? A. They might have, Mr. Lyon. [2042]

Mr. L. E. Lyon: All right. I will ask that those records be produced.

Mr. Scofield: I do not understand just what records he is asking for now, whether the records of the Weatherford Spring Company of Venezuela——

Mr. L. E. Lyon: The Weatherford Spring Company records.

(Testimony of Roy G. Bowersock.)

The Witness: This is some correspondence that Roland Smith had with somebody. The top letter is a letter from Roland Smith and I can't read half of it, to tell the truth about it, but there may be some weights available some place or other in something or other, I don't know.

The Court: What records do you demand be produced?

Mr. L. E. Lyon: The records of the Weatherford Spring Company which show the actual shipping records, which show the weights of the material actually shipped to Venezuela, and I have in front of me the invoice of the Weatherford Spring Company, which shows the gross weight of 811 pounds of 17——

The Court: You are reading from what now?

Mr. L. E. Lyon: I am reading from Exhibit DM-5, which shows the gross weight of 17 7-inch centralizers and 100 scratchers of 7-inch OD size with 5-inch bristles, which gives the precise weight characteristics that would be necessary to make a determination in a cost figure of that [2043] character.

Mr. Scofield: May I, your Honor, ask the witness a question or two with regard to the significance of these over-all weights, to bring out the absurdity of the over-all weight, that is, the relationship which the over-all weight of one of these boxes would bear to an individual item such as a 7-inch centralizer?

The Court: You may at the proper time, yes, as soon as Mr. Lyon completes his examination.

(Testimony of Roy G. Bowersock.)

Do you have the records that have been demanded?

Mr. Scofield: No, we don't have those here.

Q. (By Mr. L. E. Lyon): Now, similarly, throughout these records you have statements of sales of scratchers of certain sizes. Now, have you made any determination by the Weatherford Spring Company records to determine what the ratio of cost of a 7-inch scratcher is to its selling price, as, for example, shown by this particular invoice to the Union Producing Company of November 22, 1947, which shows the sale of 103 7-inch solid, standard solid scratchers with 5-inch bristles at \$8.25, and I am taking the benefit of the fact that that is a misplaced decimal point in that statement, and showing a total of \$849.75? That is a misplaced decimal point, is it not? A. Yes, I guess so.

Mr. Scofield: May I have the question read?

(Question read.) [2044]

The Witness: Yes, there was a similar question involved in this revenue agent's examination, which was the question of cost, of whether or not Weatherford Spring Company was selling to Weatherford Spring Company of Venezuela at less than cost, and similarly it was said on that price billed to Weatherford Spring Company that there was no reason to believe that it was incorrect, and as to exactly what the price was, I do not remember. I know the ratio was high. It is the same as it was

(Testimony of Roy G. Bowersock.)

with centralizers, it was high between the cost and selling prices.

Q. (By Mr. L. E. Lyon): Now, in making that determination, did you also consider the weight of the scratcher, did you know what the weight, for example, of a 7-inch scratcher was at that time, or did you make any effort to find out——

A. Yes, sir.

Q. ——what the weight of a 7-inch scratcher with 5-inch bristles was?

A. Yes, sir. With respect to all the items, we made inquiry of persons available and asked them what type of things they were using, and then we compared them to the things being manufactured at that time, we actually weighed them.

Q. Now, let me ask you, you had available records from the Weatherford Spring Company showing the shipments made, and I will ask you if you did not have available [2045] records similar to Exhibit DM-2 for identification, which shows on its face, and this was a December 1, 1947, invoice from the Weatherford Spring Company to the Asiatic Petroleum Corporation, item number 2, "100 Weatherford Reversible Scratchers, Standard Split Type, for use on 7" O.D. API Extreme Line Casing, to run through 9 $\frac{5}{8}$ " API Casing and in 8 $\frac{1}{2}$ " Open Hole, with 5" Bristles." And now on that invoice is a weight column giving the weight per article, which is 2.5 pounds, and in the same item 1 the 7-inch centralizers called for in that invoice are 25 pounds.

(Testimony of Roy G. Bowersock.)

Now, didn't you have records of that kind available which were direct records, to determine the weights of these items, without reference to secondary evidence?

A. If we did have, I did not know about it at that time.

Q. Well, you have stated that you had records of this kind available with reference to the weights of the centralizers that were sold. Now, wouldn't those also show the weights of the scratchers that were sold?

A. Well, I didn't say that I had anything more available for one than the other. Let me borrow Mr. Smith's glasses and maybe I can see what we have here.

Mr. Smith: You can't see though them. I am farsighted and you are nearsighted. They would not help you.

The Witness: I am sorry. That blurs. [2046]

Mr. L. E. Lyon: I will read it for you. The column here says, "Unit net weight," under that column and underneath it is "25" with a pound sign for the centralizers, and in the same column under it, for the scratchers, is "2.5" pounds, with a pound sign.

I will request, in the same way that I did before, that these records of these sales be produced, particularly the sales made during this period of time, as the best evidence and which are not here available, and at the present time I will base my objection to the offer of these summaries in evidence on

(Testimony of Roy G. Bowersock.)

the ground that they are not based upon the best records, and the best records are not available for consideration.

Mr. Scofield: I cannot see what relationship the weights of these particular items have to the amounts that are included in these tabulations, that is, I can't see where they bear any relationship whatsoever to the loss of sales of the different companies. Now, whether these things were being sold below cost in Venezuela or whether they were being sold below cost in the United States is an entirely separate thing.

The Court: Of course, aren't you confronted with this situation, Mr. Scofield: counsel is entitled to have all the best evidence offered?

Mr. Scofield: Yes, sir. [2047]

The Court: And as I interpret his objection, it is to the effect that "I will insist upon those records, being the best evidence, being produced," and unless these other records are produced, which is to say that even though the weights or the records as to the weights may not be requisite to your laying a foundation for an introduction of these documents now offered, that counsel is offering or suggesting an evidentiary bargain to you, that is, as I interpret his objection.

Mr. Scofield: Well, we are submitting here and offering all of the records, the sales records of the Weatherford Spring Company and the Weatherford Oil Tool Company, that have to do with the

(Testimony of Roy G. Bowersock.)

sale of centralizers and scratchers to the companies that these schedules indicate.

Mr. L. E. Lyon: You are not.

The Court: Do you have all the records?

Mr. Scofield: Yes, sir, we have all the records here.

The Court: That is, all the delivery tickets?

Mr. Scofield: We have all the delivery tickets, all the ledgers, all the sales journals, and these are offered here and have been offered since November 18th, which I think was the date we first made them available to the defendants.

Now, what he is asking for is a cost record of some sort to establish the cost of a particular item which was [2048] sold either in Venezuela or to one of these companies, or to them all, if you please. It has absolutely nothing to do with the selling price or the loss of sales or the enumerations that are here being offered in evidence with regard to sales to the individual companies and the loss of sales to these companies.

Now, what difference does it make, your Honor, if——

The Court: That is a matter of argument. I am speaking now purely of this objection. If what you say is correct, then it is for the defendants to demand production of these documents upon their own case.

Mr. Scofield: That is correct.

The Court: In other words, if you laid a strict foundation for the introduction of these charts that

(Testimony of Roy G. Bowersock.)

you are now offering and which are mentioned in Exhibit 176 for identification, then the other records may be beside the point.

Mr. Scofield: It is going off on a tangent. We are going off on a tangent here, on a question of costs which are not involved in this situation at all. That is, we are offering to him tabulations of sales.

The Court: Perhaps the evidence is out of order, strictly speaking, for the purpose for which it is offered.

What do you say as to that, to the contention that all the original documents, the best evidence to support Exhibit 176, et seq., that are here ready to be offered in evidence, [2049] exist——

Mr. L. E. Lyon: If there is no objection, I would like to pass to the court for comparison Exhibit DM-2 for identification and the invoices that have been produced here.

The Court: What would be the purpose of it?

Mr. L. E. Lyon: The purpose of it is to show—and I have asked the witness if these were available and he says he does not know——

The Court: By “these” you mean——

Mr. L. E. Lyon: These were the original invoices, and very peculiarly——

The Court: “These were”——

Mr. L. E. Lyon: Exhibit DM-2 contains a column which gives a net unit weight, and this is a Weatherford Spring Company invoice, a photostat of it, which I have in my hand. The invoices which

(Testimony of Roy G. Bowersock.)

are produced and which are offered to me contain no such column, like almost any such tabulation.

The Court: Has the witness made an explanation of that?

The Witness: Certainly, sir. This is a copy. He has an original of an invoice form, and this is a bookkeeping copy. They never are made the same.

The Court: Well, you mean that the weight would be on the original and not on the bookkeeping copy?

The Witness: No. They wouldn't put any weight on the original. [2050]

The Court: Well, the weight is on this.

Q. (By Mr. L. E. Lyon): How do you explain the weight on Exhibit DM-2 and the weight shown in these copies that you have offered differ?

A. I don't know, sir.

Q. You don't know? A. Probably——

Mr. Scofield: Your Honor, that is not an original.

The Court: The witness has answered. Do not interrupt the witness.

Mr. Scofield: I am sorry.

The Witness: I am sorry, your Honor. I can't see what he has here.

The Court: It doesn't make any difference whether you can see it or not. If you can examine it, you can tell us about it. It is not for you to figure out what counsel is driving at.

The Witness: No. I am not doing that. What bothers me, though, is that this here is a quotation,

(Testimony of Roy G. Bowersock.)

it says "Quotation," that much I can read, up here at the top of the page, and it is not the same as an invoice.

Mr. Scofield: That is not an invoice.

The Witness: He is calling it an invoice and it is not the same.

The Court: Isn't it your simple answer, then, that [2051] Exhibit DM-2 is not an invoice and the others are?

The Witness: It is not an invoice to the effect—if I could see these things a little more clearly, maybe I could see what is bothering you.

The Court: It doesn't matter or make any difference what is bothering him. You answer the question.

The Witness: Yes, sir.

The Court: And don't try to think ahead as to what counsel is driving at. Just answer the question.

Is your answer to counsel that Exhibit DM-2 is not an invoice?

A. It is not an invoice.

The Court: It is not an invoice?

The Witness: That is right, sir. [2052]

Q. If DM-2 is not an invoice, what is it? It gives the price, weights, price per unit, and total price; you say it is a quotation?

A. That is right. It is headed at the top——

Q. Is a record of these quotations by the company available in the books of the Weatherford Spring Company?

(Testimony of Roy G. Bowersock.)

A. Where quotations — I don't know whether they are. My answer is I don't know.

Q. You never examined any of them?

A. I don't know at the present time, without looking.

Q. Did your examination of the books of the Weatherford Spring Company show that sales were made pursuant to such Weatherford Spring quotations?

Mr. Scofield: Now, if your Honor please——

A. Yes, sir. I remember that there were quotations. I don't remember specific sales, sir.

Q. (By Mr. L. E. Lyon): Are those quotation records available——

Mr. Scofield: I am going to object to this examination.

The Court: Just a moment. Wait until the question is asked.

Q. (By Mr. L. E. Lyon): Well, those quotations records, then, from which the sales were actually made are available, aren't they?

A. I don't know. [2053]

Mr. Scofield: I am objecting, your Honor, to any further examination with regard to these so-called invoices, DM-1 to -5, because they are not invoices. I have looked at them and what they are, they are quotations by Roland Smith and they are not made from the records of the company. They are quotations made by Roland Smith to the——

The Court: I cannot accept your testimony, Mr. Scofield.

(Testimony of Roy G. Bowersock.)

Mr. Scofield: I object to them because they are not invoices, as was purported, that is.

Mr. L. E. Lyon: The witness has testified——

The Court: It is not necessary that the record system start with invoices. It may start with an order blank, or it may start with a quotation which has been accepted.

Mr. Scofield: That is true, but he is examining him on what he purports to be an invoice and all his examination is with regard to something that is not an invoice. That is, his questions have to do with records of the company to support a document which is not what it is purported to be.

The Court: To support what document?

Mr. Scofield: The document he has, this DM-1 to DM-5. He is asking the witness as to whether or not there are records of Weatherford Spring Company that do not indicate the weight of these individual items which are on that quotation. Those quotations, DM-1 to DM-5, are merely quotations of Roland Smith. [2054]

The Court: I do not know. I do not know what your records are. That is what the inquiry is about. There might be three records in your system that precede the invoice, or might be five for aught I know.

Mr. Scofield: My objection is, your Honor——

The Court: If a quotation sheet precedes the invoice, that is part of the system of records, isn't it?

Mr. Scofield: Yes. But his questioning has been

(Testimony of Roy G. Bowersock.)

on the basis that this is an invoice. Now, if he puts it on that basis——

The Court: Perhaps counsel misnamed it, but that does not have anything to do with the system of records. [2055]

* * *

Cross-Examination

By Mr. L. E. Lyon:

Q. You have testified to the elements which make up the selling costs and you have examined the books of the Weatherford Spring Company. Will you tell me just specifically what the items were that were charged to such selling costs?

A. What items are charged to selling costs?

Q. How much was charged to entertainment; do you recall that? A. Quite a lot.

Q. How much?

A. I don't recall the exact amount, no.

Q. Was that the major item?

A. No. [2076]

Q. How did it compare with commissions?

A. Not as large.

Q. Well, what was the ratio?

A. Depending on which year you are talking about. On an average about a tenth.

Q. What was a tenth?

A. Traveling and entertainment.

Q. All right. How much was the total charge in 1947 or in 1948, let us take it—1948 of the Weatherford Spring Company for entertainment?

(Testimony of Roy G. Bowersock.)

A. I don't remember now.

Q. Well, do you remember whether it was in thousands? A. Yes.

Q. How many thousands?

A. I said I didn't remember.

Q. Well, was it in five figures or six figures?

A. Counting pennies?

Q. I said not counting pennies; on the left-hand side of the decimal point. A. Five figures.

Q. And for what were those expenditures made?

A. A portion is traveling and entertainment and gifts.

Q. Of what character?

A. There is also included in that account Christmas gifts to employees and other gifts at other times during the year. [2077]

Q. Gifts to whom?

A. Such as turkeys——

Mr. Scofield: Let the witness finish his answer.

A. Turkeys or items of such to salesmen and the service employees.

Q. (By Mr. L. E. Lyon): And gifts to who else?

A. I don't know exactly. I don't have a list of them.

Q. And traveling expenses for whom?

A. For the sales and service——

Q. And for who else? A. ——personnel.

Q. And for who else?

A. Well, sales and service personnel include the whole thing. Of course, there were such people as

(Testimony of Roy G. Bowersock.)

welders and that sort of thing get in on there. I don't know for who else. I don't recall.

Q. Did that 60 per cent that you talk of include 60 per cent of the \$156,194 check received from the Mene Grande Oil Company? A. No, sir.

Q. That was not included at all?

A. No, sir.

Q. Does it include any of the other checks received by the Weatherford Company from the Mene Grande Oil Company or any proportion of [2078] them?

A. Not after the date the sales were made through Weatherford Spring Company of Venezuela.

Q. Now, what, specifically, were these gifts given to people other than sales service, sales department?

A. I don't know. I wasn't there.

Q. You do not know? A. No, sir.

Q. It did not show on the books?

A. If it does show, I didn't see it as to who the gifts were to.

Q. Did you find a charge on the books for an elk hunt?

A. I would imagine there might be charges for an elk hunt. There are charges in Weatherford Oil Tool Company's records for deer and elk hunts.

Q. How about the Weatherford Spring Company? A. I don't recall.

Q. You don't say it was not there?

A. I don't say it was not there, because I know

(Testimony of Roy G. Bowersock.)

that such things did occur in the Weatherford Oil Tool Company.

Q. So this 60 per cent sales service includes these matters of gifts, these matters of expenditures for traveling, these elk hunts, and others items of that kind; is that what you mean by your testimony?

A. They are included; yes, sir. [2079]

* * *

JOHN A. HALL

(Recalled)

* * *

Direct Examination

(Resumed)

By Mr. Scofield:

Q. I put before you, Mr. Hall, Exhibit L and call your attention to the tabulation in that exhibit that shows the weights of the centralizers. Do you find that?

A. On page 6 I find the weights of spiral centralizers, over on the left-hand block on that upper left-hand side.

Q. Did you have anything to do with the preparation of that tabulation? A. Yes, I did.

Q. What was it? [2081]

* * *

Cross-Examination

By Mr. L. E. Lyon:

Q. Mr. Hall, you testified that you are a vice president of the Weatherford Oil Tool Company,

(Testimony of John A. Hall.)

is that correct? A. That is correct.

Q. How long have you occupied that position or held that title?

A. I would say since probably the beginning of 1949.

Q. What office in the Weatherford Oil Tool Company did you hold before that?

A. I also held the office of secretary-treasurer. I had a title of vice-president in charge of research and development, in view of the type of investigation work that I did. In recent years, since 1951, I took on the title of vice-president strictly and relinquished the title of secretary-treasurer.

Q. Have you been an officer of the Weatherford Oil Tool Company since it started in active business on December 15, 1948? [2097]

A. Yes, I have.

Q. Either in the capacity of secretary-treasurer or vice-president, then, I take it?

A. That is correct.

Q. What office or offices have you held in the Weatherford Spring Company of Venezuela?

A. None.

Q. None at any time? A. None.

Q. What office have you held in the Hall Development Company, C.A., a Venezuelan corporation?

A. None.

Q. What office do you hold or have you held in the Weatherford, Ltd., a corporation of the Province of Alberta, Canada?

(Testimony of John A. Hall.)

A. I am president of Weatherford, Ltd., from the beginning.

Q. What office do you hold in the Weatherford Internacional, S. A. de C. V., a corporation of Mexico? A. None.

Q. What office or offices did you hold in the Nevada Leasehold Corporation?

A. I believe secretary. We can go to the records for it.

Q. What office did you hold in the Parker Industrial [2098] Products, Inc.? A. None.

Q. In what part of 1940 was it that you first started in in an effort to sell centralizers either made by the Houston Pipe Appliance Company or offered for sale by that company or by the Weatherford Spring Company?

A. In what part of 1940?

Q. Yes.

A. From the very beginning of any manufacture of the Houston Pipe Appliance I figured in the selling efforts. I would say probably somewhere around January, February, 1940.

Q. How long was it after you were engaged in the sale of centralizers—and I presume that they were at that time only spiral centralizers, is that correct?

A. We had both spiral and some straight centralizers, yes.

Q. And when?

A. Somewhere around in that same period.

Q. Well, that same period, as I understand your

(Testimony of John A. Hall.)

testimony, is sometime in January, February or March of 1940; was that correct?

A. We had spiral centralizers throughout that time. I don't just recall the exact date of making up, where we had some straight centralizers made up, but I do remember that. [2099]

Q. You do not even remember whether it was in that period, do you?

A. Not in that particular period.

Q. All right. Sometime in the year 1940, then, let us say, you started in to manufacture and sell or offer to sell, besides the spiral centralizers, a straight centralizer, is that correct?

A. Sometime in 1940 we did offer some for sale; that is right, or offered them for sale.

Q. Offered straight centralizers for sale sometime in 1940? A. That is correct.

Q. And that is as near as you can position the time or determine the time, that it was sometime in 1940?

A. It was very probably towards the latter part of 1940——

Q. What was that date with reference to——

A. ——or possibly somewhere around October or November.

Q. What was the date of that period that you changed the name under which you were doing business of Houston Pipe Appliance to Weatherford Spring Company?

A. Well, as I recall, we started doing business as

(Testimony of John A. Hall.)

the Weatherford Spring Company somewhere around—around or about April of 1941.

Q. Then it was about five or six months before you [2100] changed the name to Weatherford Spring Company that you offered for sale first a straight centralizer, is that correct?

A. About, yes.

Q. Isn't it true, Mr. Hall, that straight and spiral centralizers are used now interchangeably even by the same company, will use a straight centralizer now and will use a spiral centralizer maybe on the next well?

A. That is not correct, Mr. Lyon. You are making an assumption.

Q. It is not correct at all? A. No.

Q. Do you sell straight and spiral centralizers to the same oil companies?

A. Ask that again.

Q. I say, do you sell straight and spiral centralizers to the same oil companies?

A. Yes. It depends on the conditions of the well, the type of pipe that is being set, and the area that it is being set in.

Q. That is, then, as to which you recommend, whether it is a straight or a spiral centralizer?

A. That is as to what they use.

Q. Well, now, you have been on wells, you have been servicing and directing the operations, as you have testified. I believe, in the use of centralizers and scratchers in the [2101] cementing of oil wells, haven't you? A. I certainly have.

(Testimony of John A. Hall.)

Q. Now, you have been on there where they have used in a string scratchers and spiral centralizers?

A. I have.

Q. And cemented the wells? A. I have.

Q. And I mean that both were Weatherford products, that in the all-inclusive state of Weatherford Spring Products? A. I have.

Q. You have been on the wells where they have cemented the wells, using straight centralizers and scratchers both of Weatherford make and have cemented the wells? A. I have.

Q. In that process you have directed or observed or serviced the wells in which they have mounted the centralizers, say, 90 feet apart; isn't that a correct approximation?

A. That is not necessarily correct. We mount them——

Q. Well, you have used them——

Mr. Scofield: Let him finish the answer.

A. We mount them all the way from 15 feet apart, sometimes 10 feet apart, to as much as 90 feet apart.

Q. (By Mr. L. E. Lyon): All right. Now, you have been on a well where they have been 90 feet apart on the casing?

A. I have, yes, approximately. [2102]

Q. That was the question? A. Yes.

Q. And between those centralizers there were mounted scratchers, beginning right at the top of the lowest centralizer, about 15 feet apart and ex-

(Testimony of John A. Hall.)

tended right through in that spacing or length of casing covered by the centralizers, haven't you?

A. Let us say——

Q. Now, isn't that true?

A. ——beginning at the shoe below the first centralizer and continuing on up. That is the way we run them.

Q. And, as specified in your catalogues, you have been certain that a scratcher was mounted immediately above the top of the centralizers, haven't you?

A. Not necessarily immediately above.

Q. I have been asking you if you have upon a well when you have done that?

A. Yes, yes.

Q. As specified in your catalogue?

A. We put them above and below, Mr. Lyon.

Q. All right.

A. The centralizers.

Q. Now, you have instructed that the casing be reciprocated with the scratchers and centralizer on it to condition the well while you were circulating drilling [2103] fluid, haven't you.

A. What do you mean by condition the well? That is really a compound question.

Q. All right. Take the word "condition" out. You have instructed that the casing be reciprocated while you were circulating the drilling fluid?

A. That is very correct. All the pipe must be moved in order to keep it free. During the periods of movement, when you get down to the bottom of your travel you must come back up and then start back down.

Q. And you have been on a well under the condi-

(Testimony of John A. Hall.)

tions that I have outlined, where the distance of reciprocation of the casing, say, was approximately 35 feet vertical movement, have you not?

A. Sir, I have been on wells where the distance was 60 feet vertical movement.

Q. All right. I am taking, then, this well where you have scratchers 15 feet apart with centralizers 90 feet apart and the reciprocation has been in the neighborhood of 35 feet, hasn't it?

A. Mr. Lyon, you can't pin me down to that.

Q. Just answer the question.

A. I have taken it all the way from one inch clear to 60 feet.

Q. I will concede that you have taken it all the way [2104] from, but I am asking you: Haven't you been on them when the conditions were followed as I have outlined them? You may have done other things, too, at some other time.

A. I have worked on all of those distances.

Q. All right. Then your answer is "yes," that you have reciprocated to 35 feet?

A. To at least 35 feet and above, yes.

Q. All right. Now, then, you have discontinued the introduction of the cement—I mean of the drilling fluid or rotary mud into the well and started pumping cement in the well or a cement slurry into the well, haven't you?

A. Started pumping a cement slurry following the rotary—wait a minute. I discontinued pumping.

Q. And you discontinue pumping to connect the cement line to the swivel, don't you?

(Testimony of John A. Hall.)

A. Mr. Lyon, you don't connect our cement lines to a swivel.

Q. All right.

A. We don't even use a swivel.

Q. All right. You have to stop cementing—I mean pumping of rotary mud in when you start pumping cement slurry in, don't you, irrespective of the mechanical means that is used to do it?

A. Yes, we stop pumping rotary mud. We cease to pump it. Our lines are usually already hooked up and there is no [2105] interruptions.

Q. And you pump a cement slurry down the casing into the well to the place where the cement is desired and you continue the reciprocation of the casing during that placement of the cement, don't you? A. That is correct, usually.

Q. And what I have outlined is generally the practice which you have performed and has been performed, except perhaps for specific distances, throughout this period of time of your experience with scratchers and centralizers and cementing wells using scratchers and centralizers on a casing during this reciprocation of the casing, isn't that true?

A. In a cementing operation we have pumped our cement into the pipe following the rotary mud. Sometimes there wasn't even any circulation of the rotary mud, by the way, too. So we just pumped it down a good portion of empty pipe and followed it on up like that, moving our pipe until we de-

(Testimony of John A. Hall.)

cided to cease the movement of the casing for some reason or other.

Q. And then when you decided to cease the movement of the casing you allowed the casing to stand and the cement to set, didn't you?

A. To stand and the cement set, Mr. Lyon?

Q. To stand and the casing—you stopped the motion of it, so you let it stay there in the cement to set, didn't [2106] you?

A. We stopped the motion of the pipe.

Q. Yes.

A. Yes, but we didn't stand it in that fluid cement necessarily.

Q. When you stopped the reciprocation the cement set, didn't it, sometime or other?

A. It set sometime.

Q. All right. A. I would presume.

Q. And the scratchers and the centralizers were still on the casing?

A. The scratchers and centralizers we always hope, of course, are still there.

Q. Well, as far as you knew they were still there? A. As far as I knew.

Q. After you started the manufacturing in October or November or your offering for sale the straight centralizers when did you first offer for sale either a scratcher?

A. We contacted Mr. Frank Boyd sometime around about March or April of 1941, Mr. Frank Boyd of the Union Oil Company. [2107]

(Testimony of John A. Hall.)

Q. (By Mr. L. E. Lyon): And you had a scratcher manufactured at that time?

A. My dad had one.

Q. And did that scratcher correspond with this scratcher, Exhibit CJ, which I hand to you, in any way?

A. The springs were sidewise. The springs had coils in them similar to these coils. It had round holes as against the square holes that you have here. The springs were in the scratcher housing with what I would call tinner's rivets or just rivets, whether they were tinner's rivets or what they were. It did not have this band that you have on the inside. What is this supposed to be, anyway?

The Court: The exhibit number?

Mr. L. E. Lyon: That is Exhibit CJ.

The Witness: We sure never made any scratcher exactly manufactured, exactly put together as this, but this scratcher that we showed was also made in halves.

Q. (By Mr. L. E. Lyon): Made in two halves?

A. Yes.

Q. Are you familiar with the fact that your father took one of those halves to Texas with him?

A. I don't know whether he took this half to Texas with him or not. I don't even recall just—

Q. Isn't it a fact that before the agreement was made with Franz in Texas, at Weatherford, that it was after that [2108] agreement was made that the first scratchers were offered for sale?

A. I don't believe that is correct, Mr. Lyon.

(Testimony of John A. Hall.)

I sat in on some testimony in Houston where that was brought out.

Q. And that was testified to by witnesses including your father, wasn't it?

A. The scratchers were offered for sale before the agreement, and I think that picture (indicating) showed it up. In other words, Dad had had the scratchers photographed before the Franz agreement.

Q. Isn't it a matter of fact, as testified to by witnesses in Houston, that the rivet idea was first developed by Mr. Franz in Weatherford after the agreement?

A. What witness? They certainly didn't testify to that.

The Court: Are you asking the question whether the witnesses down there testified to it or whether it is so?

Mr. L. E. Lyon: Both, your Honor.

The Court: You can't ask both.

Q. (By Mr. L. E. Lyon): Well, I am asking whether the witnesses that they called didn't so testify.

A. None of those witnesses knew, as far as I knew.

Q. Just answer the question. That is not an answer to the question.

The Court: You may answer the question.

The Witness: He has their testimony. [2109]

The Court: Do you remember whether they so testified or not?

A. I do not recall any witness testifying that Mr.

(Testimony of John A. Hall.)

Franz put rivets in. He probably put rivets in after we did——

Mr. L. E. Lyon: Now, that isn't an answer to the question.

A. (Continuing): ——because we certainly were doing it there.

Q. (By Mr. L. E. Lyon): Now, when was the first sale of scratchers made by either Houston Pipe Appliance or the Weatherford Spring Company, to your knowledge?

A. You are going to have to go to somebody else for that, Mr. Lyon. I do not have any records on that. You can ask Mr. Hall on that.

Q. It wasn't until after the Franz agreement with Weatherford, was it?

A. You can't get it from me on that. That is something that I do not have any personal knowledge of, as to who the first scratcher was sold to.

Q. You have no knowledge of the selling of a scratcher prior to July of 1941 or the time, if I am correct in the statement, of July, of the agreement between your father and Mr. Franz for the manufacture of scratchers and centralizers in Weatherford, Texas, do you?

The Witness: Now, will you ask that compound question [2110] again now?

Mr. L. E. Lyon: Just read the question.

(Question read by the reporter as follows:

“Q. You have no knowledge of the selling of a scratcher”——)

(Testimony of John A. Hall.)

Q. (By Mr. L. E. Lyon): —by you or by the Weatherford Spring Company?

(The pending question, as amended by Mr. Lyon, was read by the reporter.)

A. I do not have any personal knowledge of the first sales of scratchers manufactured in Weatherford, Texas.

Q. (By Mr. L. E. Lyon): Now, will you please answer the question: You have no knowledge of the sale of a scratcher by you or by the Weatherford Spring Company prior to July of 1941, have you?

A. By the Weatherford Spring Company, no.

Q. Or yourself? A. No, I do not.

Q. Or yourself?

A. I do not have any, any personal memory of any such sale. There very probably were, but there again you would have to go to the man who was selling them back there.

Mr. L. E. Lyon: I move to strike the witness' statement with respect to probabilities, as not being responsive to any question asked of him, your Honor. [2111]

The Court: What are the probabilities? We might go into them.

Mr. L. E. Lyon: No. He said probably there were. I asked him if he had any knowledge as to sales.

The Court: Motion granted as to that.

Q. (By Mr. L. E. Lyon): Now, following this manufacture of scratchers in Weatherford—and I

(Testimony of John A. Hall.)

believe those scratchers were, were they not, the type illustrated by Plaintiff's Exhibit 88, or is that not one of the Weatherford scratchers?

A. This looks like it is an attempted copy of a scratcher very similar to what we were making, but I don't recall of ever seeing any production scratchers that had the coils that—that had the holes that straight up and down, holding the scratcher in a plane.

Q. And this Plaintiff's Exhibit 40, is that one of your scratchers? I am trying to find out merely to get you to identify which is one of your scratchers at the present time.

A. This I will say is, from all appearances, a scratcher of our manufacture, there being no name on it.

Q. All right. Now, is that the type of scratcher that was being made at Weatherford by the Weatherford Spring Company in July of 1951?

A. In July of 1941—this basically is the same scratcher that my dad made. [2112]

Q. Just answer the question, not at some other time.

A. Are you asking if this individual spring link was the same?

Q. I am asking if this scratcher, Plaintiff's Exhibit 40, is a fair replica of what the Weatherford Spring Company was manufacturing and offering for sale in July, 1941, from Weatherford, Texas.

A. Why don't you ask me when this scratcher was made?

(Testimony of John A. Hall.)

Q. Just answer the question.

A. And show me the other exhibits. You and I both know when each of the scratchers were made. Why try to trick me on some technical question that you are propounding?

Q. I am not trying to trick you at all.

I will ask that the witness answer the question.

The Court: Read the question to the witness.

(The question referred to was read by the reporter, as follows: "Q. I am asking if this scratcher, Plaintiff's Exhibit 40, is a fair replica of what the Weatherford Spring Company was manufacturing and offering for sale in July, 1941, from Weatherford, Texas.")

The Court: Just answer yes or no or "I don't know."

A. The scratchers that I have seen were identical as to mechanical function. The springs were—the spring shafts or tines, as some people might call them, the fingers that [2113] stick out, operated upon their reciprocation in a sidewise motion. There were coils in both of them. The scratchers were put in the bands with rivets. The springs in that scratcher were canted. These springs here are canted.

Concerning the length of the springs, I doubt that they were as long. Usually they were about three inches or thereabouts, or an inch and a half or thereabouts.

(Testimony of John A. Hall.)

Q. (By Mr. L. E. Lyon): Would it change your ideas any to know that this was a scratcher which was put in evidence and represented as being one of your manufacture, of the Weatherford Spring Company manufacture, and was placed in evidence on May 25, 1949?

A. I feel that it is one of our scratchers.

Q. Well, then, why don't you say so?

A. This scratcher here was made in very recent years. I know by the paint that is on it, the kind of paint.

Q. Now, can you tell me yes or no as to whether this is a fair replica of what you were manufacturing and offering for sale in July, 1941?

A. Mr. Lyon, I have got to know what you mean by the term "replica."

Q. A duplicate.

A. You must define it.

Q. Duplicate. Duplicate, then.

A. Do you mean the way the two operate? [2114]

The Court: He means in every way. "Replica" means in every way. Is it a fair reproduction?

The Witness: That this was exactly like the pictures that my dad was making then, no.

The Court: Like the thing itself?

The Witness: The picture of the scratchers—

The Court: We are not talking about pictures. We are talking about scratchers. Is it like the scratcher? If you know, say so, and if you don't know, say so.

The Witness: He is trying to trick me into some

(Testimony of John A. Hall.)

form of terminology. I can take the two scratchers and show you.

The Court: You do not need to worry, Mr. Hall, if you understand the question before you answer and if you give a truthful answer, you do not need to worry whether he is trying to trick you or anything. [2115]

If you sit there and worry about what he is trying to drive at, instead of trying to think about the truth of your answer, then you certainly are going to be crossed up. Now, sit back and relax and answer the question and don't answer questions until you know what you are asked.

The Witness: Ask your question again, now.

Mr. L. E. Lyon: I merely ask you one question:

Is Plaintiff's Exhibit 40 a fair replica of what was being manufactured and offered for sale by the Weatherford Spring Company from Weatherford, Texas, in July, 1941?

Mr. Scofield: I object to that, your Honor, unless counsel indicates what "fair" means. Now, if it is a replica, it is one thing.

The Court: If he doesn't understand what it means, he can say so.

Mr. Scofield: All right.

The Witness: Your Honor, I can put interpretations on it of my own. It is just like someone asking me if you and Mr. Lyon look exactly alike.

The Court: You don't need to go into all that. Now, it is either one of your scratchers or it isn't

(Testimony of John A. Hall.)

a scratcher of yours, or it is almost like one or it is not almost like one.

Mr. Scofield: That is it.

The Court: Now, which is it? [2116]

A. All right. It is almost like the scratcher made back at that time.

The Court: Very well.

Mr. L. E. Lyon: All right.

Q. Now, in what way does it differ from the scratcher that was made in July, 1941, and offered for sale by the Weatherford Spring Company at Weatherford, Texas.

A. You are attempting to pin me down to a certain month.

The Court: No. Just answer the question. You said it was almost like it. Now, wherein is it not like it? That is the question.

A. The two earlier types of scratchers that I have seen, that I will say was made on or about July of 1941, were, No. 1, some of them had springs which—we have an exhibit like this, but I can——

The Court: Where is the exhibit? We will find it. Where is it? That will be the short answer.

Mr. L. E. Lyon: Yes, let us see if there is one you say is like it. That is all I am trying to find out.

The Witness: It is not here that I can see. There was one in the—I will go ahead and explain it.

The Court: Can you produce one that is?

The Witness: It certainly is not like this one that you concocted. [2117]

(Testimony of John A. Hall.)

The Court: Now, by "this" what are you referring to, what exhibit?

The Witness: I am referring to Exhibit CD-1.

Mr. L. E. Lyon: That is merely in here for identification, at the present time, your Honor.

The Witness: I will use this one in explaining my answer.

The Court: By "this one" you refer to Exhibit——

Mr. L. E. Lyon: May it be stipulated, Mr. Scofield, that this Exhibit No. 40 was offered by you as a precise replica of what was manufactured by the Weatherford Spring Company?

Mr. Scofield: I think the one I offered at the public use proceeding is now in the Patent Office.

Mr. L. E. Lyon: No. I say in this case, not in the Patent Office. On the 25th of May, 1949, you offered it in evidence. Didn't you offer it in evidence at that time as an exact replica of what they manufactured?

Mr. Scofield: I offered the exhibit which the witness has, which is CD, is it?

Mr. L. E. Lyon: No. It is Exhibit 40.

Mr. Scofield: ——Exhibit 40, as Weatherford Spring scratcher. I don't recall the date of manufacture. It certainly was not in 1941.

The Witness: Shall I go ahead?

Mr. L. E. Lyon: Go ahead. I would like to get it fixed [2118] if it is possible.

The Witness: The early scratchers, I will deal with the——

(Testimony of John A. Hall.)

Mr. L. E. Lyon: Give me the record of May 25, 1949.

The Court: Don't we have all the scratchers that Hall has ever manufactured here, replicas or samples of them?

The Witness: I didn't find one.

The Court: I am not asking you that question. I am asking your counsel.

Mr. Scofield: I don't believe there is in this case, your Honor, a half scratcher.

The Court: No one is asking about a half scratcher.

Mr. Scofield: Yes, the half scratchers were made in 1941.

The Court: It may have been. Is this question directed to a half scratcher, Mr. Lyon?

Mr. L. E. Lyon: No, your Honor. This is directed to what they were manufacturing and offering for sale, and it is not my understanding that they offered for sale a half scratcher in 1941.

Mr. Scofield: Yes, in 1941 is when the half scratchers were made and they were made in Weatherford and Mr. Lyon in the public use proceeding will recall that there were photographs of the half scratchers welded into a full type scratcher, that is the complete round scratcher.

The Court: Don't you have physical specimens of all [2119] those things some place?

Mr. Scofield: I do not have the half scratcher. That is in the Patent Office. That went to the Patent Office. I have a photograph.

(Testimony of John A. Hall.)

The Court: Do you mean that they are so scarce that you just have one of them?

Mr. Scofield: Yes, sir, that is right.

Mr. L. E. Lyon: In 1949, on May 25th, this scratcher was offered in evidence by Mr. Scofield with the following statement, contained on page 69 of the record:

"I offer as a physical exhibit the Weatherford Spring scratcher which I used in the opening this morning, and it exemplifies the structure which is shown in Plaintiff's Exhibits 4 and 5. That is offered as Plaintiff's Exhibit No. 40."

And that is where that particular scratcher came from and it was offered as an exemplar of the Weatherford Spring Company scratcher.

Mr. Scofield: Of course it is the Weatherford scratcher.

Mr. L. E. Lyon: Well, "Weatherford" does not mean anything.

The Court: If you had gotten up about 20 or 30 minutes ago and offered to stipulate that it was, it would have saved a great deal of time. This witness is up here struggling with whether to say it was or wasn't or almost like one. [2120] He has never yet said it was a Weatherford Company scratcher.

Mr. Scofield: What he is troubling about is the question as to whether or not that scratcher is a replica of the scratcher that was made in 1941. Now, if that isn't a replica of the scratcher that was made in 1941, it functions exactly the same, but insofar as it being a replica it is not a replica.

(Testimony of John A. Hall.)

The Court: Well, do you have one of the scratchers which was made in 1941?

Mr. Scofield: No, sir.

The Witness: We have a photograph.

Mr. Scofield: It is in the Patent Office. They are in the Patent Office.

The Court: What do you mean, they are in the Patent Office?

Mr. Scofield: One-half of that scratcher was used in the public use proceedings and it went to the Patent Office as an Exhibit.

Q. (By Mr. L. E. Lyon): Now, as I understand your testimony, then, it is that Exhibit 40 is not a precise replica of what was made in 1941, in July. Will you state wherein it differs?

A. As to detail, yes. As to the earlier scratchers, or the scratcher of which you speak, let us say, the springs were crossed in the fashion as you see here, your Honor. In [2121] other words, those on the bottom row were crossed upwardly; those on the top row were crossed downwardly; and then, of course, it was with the springs on the same rib, there were two springs upon that rib, they were crossed. This——

Q. (By Mr. L. E. Lyon): What is “this”?

The Witness: Just a moment. Let me look here. This light is——

(The witness holds said scratcher close to the light.)

(Testimony of John A. Hall.)

The springs also in that scratcher were of three-inch bristles or thereabouts, a little over or a little below. Now, that is a distance from here to out here. (Indicating.)

The Court: The distance from the collar to the end?

The Witness: No. It is not necessarily the distance from the collar to the end.

The distance from the spring out. There are three inches or approximately and sometime, a little later, in 1941, as I recall, they came out with some bristles that were shorter, about an inch and a half or thereabouts, and there were a few scratchers made in 1941 that looked very similar to this with the [2122] spring.

The Court: Exhibit 40?

The Witness: That is correct. Those were made, I am sure, past July, because I received some in. I believe, October or November of 1941.

Q. (By Mr. L. E. Lyon): Where?

A. At Bakersfield. Some were sent to me.

Q. Were those scratchers that you received in October or November like Exhibit 40?

A. Some of them were similar. The paint was glossy. Some of those that I received were also split scratchers, where we had an ear on one side—on each side so that you could open the scratcher up.

Mr. Scofield: If it would facilitate the examination, plaintiffs are ready to stipulate that the scratchers manufactured in July of 1941 are shown in Defendant's Exhibit A; that is the advertisement

(Testimony of John A. Hall.)

that Weatherford Spring put in The Oil Weekly at that time.

Mr. L. E. Lyon: As to one form.

The Witness: May I see Exhibit A here?

Mr. L. E. Lyon: As to one form I will accept that stipulation.

The Court: As to one form of?

Mr. L. E. Lyon: A scratcher that was then manufactured. I will accept that stipulation, as shown in the July 7, 1941, Oil Weekly, Defendant's Exhibit A. [2123]

The Court: Do you have the exhibit there?

The Clerk: Yes, sir.

Mr. Scofield: We could also stipulate, your Honor, that as to another form, the Exhibit B, the advertisement of September 11th, shows a Weatherford scratcher of the type that was made at that time.

Mr. L. E. Lyon: I accept that stipulation also.

Q. Now were these scratchers of the type that you received in Bakersfield in October or November of 1941 sold to the trade at that time?

The Witness: What was your question?

Mr. L. E. Lyon: Read the question, please.

(Question read by the reporter.)

A. You mean were we offering them for sale? We were offering them for sale.

Q. Did you sell them?

A. And did we sell them?

Q. Yes. A. I presume we did.

(Testimony of John A. Hall.)

Q. Well, you know whether you did or not. You were the one who was selling them.

A. My dad was selling them, too. I had a little tough time there at first because our competition here was claiming they had patents on them, every patent that existed.

Q. You offered those for sale and those [2124] scratchers had a particular method of operation, I believe, did they not? I am not asking you what it is. But they did have, in your opinion and in your assertion, a particular mode of operation?

A. You are covering a lot of territory, because the use of a scratcher covers a very broad field.

Q. It is your opinion that, as you were offering them for sale and selling them, they had a——

A. For whatever purpose a scratcher was used for we offered them for sale.

Q. All right. And in a well they had a particular method of operation when they were mounted to rotate on the pipe, didn't they?

A. Mounted to rotate? Let's say——

Q. Just answer the question, please.

A. ——they had a particular function when they were reciprocated, when they were mounted freely on the pipe.

Q. And reciprocated?

A. And reciprocated.

Q. Now, I place before you a letter which is in evidence as Exhibit 194 and will ask you if you wrote that letter? It is in three pages, Exhibits 194, 195, and 196, and ask you if that is your signature?

(Testimony of John A. Hall.)

The Court: A single letter in three exhibits?

Mr. L. E. Lyon: Yes, your Honor. Unfortunately all [2125] three pages of it were so marked when they were produced in accordance with my demand.

Maybe your counsel will stipulate that they were written by you.

A. On June 2nd, 1945, dated to Weatherford, Texas, addressed to Mr. Thomas E. Scofield, 2600 Fidelity Building, Kansas City, Missouri, and signed "John A. Hall" in my own signature. This is Exhibits 194, 195, 196, the third page bearing my signature. I haven't read it but I presume it is my letter.

Q. I don't want any presumptions. I want your answer yes or no, or that your counsel stipulate whether you did or did not write the letter, Exhibits 194, 195 and 196. [2126]

* * *

Q. (By Mr. L. E. Lyon): You have had an opportunity since the recess to read, as directed by the court, Exhibits 194, 195, and 196, which is a letter of June 2, 1945, written to Mr. Thomas E. Scofield, and, as you have testified, the third page of that is signed by you, and did you write that letter?

A. Yes, I wrote the letter.

The Court: Mr. Scofield, I think that we can meet your objection probably by having the clerk just staple the three exhibits together. Then, whenever anyone handles one, he will handle all. They won't be separated.

(Testimony of John A. Hall.)

Mr. Scofield: Yes, I think that would be preferable to handling three pages separately.

Q. (By Mr. L. E. Lyon): Now, this letter was written, as you state on its first page, at the request of Mr. Hall, Sr. Why was it written?

A. It was written to give Mr. Scofield an explanation of the action of the sidewise bristle in reversing.

Q. That was the same action, however, that had been going on and had been observed by you in 1941 of the same scratchers, wasn't it? [2130]

A. It was.

Q. In other words, in 1945, when you wrote this letter, Exhibits 194, 195, and 196, there wasn't anything new or different about what was happening? A. No, there wasn't. There was not.

Q. Now, this action that you have stated, as explained in Exhibits 194, 195, and 196, was the same action that you observed of the type of scratcher as shown in Exhibit B, that is the advertisement of September 11, 1941, of the Weatherford Spring Company, was it not? A. It was identical.

Q. And there was no different operation performed at all by the scratcher shown in Exhibit A, that is the July 7, 1941, Oil Weekly ad. was there?

A. There was no difference. [2131]

Q. Mr. Hall, at one of the petroleum exhibitions or exhibits or conventions Weatherford Spring Company distributed a catalogue. Was that catalogue Exhibit L, copy of which I hand you?

(Testimony of John A. Hall.)

A. I can see nothing in this catalogue that will indicate that it was printed for distribution there or that it was distributed there.

Q. Well, I am asking you a question: Was it or was it not distributed at such a petroleum exhibition, not whether it was printed for it. I am asking you was it distributed at such an exhibition?

A. What exhibition, what year?

Q. In 1947. A. Where?

Q. I believe it was in Oklahoma.

A. I will put it this way: If it was out in time and was there in our booth, we distributed it.

Q. You were there at that 1947 convention in Oklahoma, were you not? A. I was.

Q. And you distributed a catalogue at that exhibition, did you not? A. I feel sure we did.

Q. Now, is this the one that you distributed there, and by "this" I mean Exhibit L? [2132]

A. I believe that it very probably was.

Q. All right. In that catalogue, on the front face of page 2 there is a picture of a scratcher. Does that scratcher differ in any way from Exhibit 40 which we had here yesterday? I will place Exhibit 40 back in your hands again.

A. In the scratcher shown in Exhibit L, on the first page of the inside leaf——

Q. The page is numbered 2.

A. The page is numbered 2, yes—it shows that the springs were canted; it shows that there is probably five-inch bristles, what was labeled as five-inch bristles; it shows the scratchers were put in with

(Testimony of John A. Hall.)

rivets. It may be possible, it is probable, that the springs are made individually. By that I mean there is one coil to a spring, then an eye, and that there are two eyes on the rivets.

In this scratcher here there are two eyes shown there. I would say that the two scratchers are almost identical. I can't tell as to size, of course. One may have been a five and one-half or a five and three-quarter, and this is obviously a seven-inch scratcher. I mean the one shown in the picture.

The Court: By "this" referring to Exhibit 40?

The Witness: Yes, Exhibit 40, sir.

The Court: Is the seven-inch scratcher?

The Witness: Yes. [2133]

Q. (By Mr. L. E. Lyon): When you circulated that catalogue with the picture that is on page 2, with the notation under it "Patent No. 2,374,317" on page 2, did you receive inquiries from the trade as to what that patent marking meant?

A. I don't recall that we did. We may possibly have received one from Gulf but I am not sure. If there are inquiries, they would most certainly have been of record, and if you will put them before me I will attempt to recall about the inquiries.

Q. I am asking you if there were such inquiries. You do not recall any, is that correct?

A. I don't recall any specific inquiries as to that question at this moment. Why don't you place a time on it, on what you have said now?

Q. I am talking about the year 1947 right now.

(Testimony of John A. Hall.)

That was the time that this particular contract, Exhibit L, was being distributed, was it not?

A. Contract?

Q. Catalogue, catalogue Exhibit L.

A. It surely was. We most certainly had discussions in that year with various companies as to whether or not we had a license from you people.

Q. That is, throughout that year you had many discussions with customers with respect to your claim that you were [2134] operating under the patent No. 2,374,317 in the sale of the scratchers of the form in Exhibit 40, did you not?

A. That is very correct. You boys were——

Q. And you told them at all times “We are operating under that patent,” didn’t you?

A. In any case we told them that we were operating under such privileges as were granted us through that patent out of a settlement [2135] agreement.

Q. (By Mr. L. E. Lyon): Now, was there any reason that you know of why in the catalog, Exhibit L, you didn’t put under that picture on page 2 the words “Licensed under” instead of writing the patent number the same as the patent numbers written under the centralizer on the same page, to indicate that those were the Weatherford Spring Company patents? A. Now, state that over.

Q. I say that you note that in Exhibit L, on page 2 in the upper left-hand corner, there is a picture of a spiral centralizer, and under that pic-

(Testimony of John A. Hall.)

ture there are "Patents 2,220,237 and 2,258,052," all in parentheses. That indicates that Weatherford Spring Company owned those patents, does it not?

A. It does not necessarily indicate that they own them.

Q. It doesn't?

A. It doesn't say one way or the other. It indicates to me a privilege to manufacture under the particular patents shown.

Q. I see. Now, then, under the scratcher like Exhibit 40, which is the red picture of a scratcher in the background, there is just the word "Patent"—"Pat. No. 2,374,317" in parentheses. Now, did that indicate ownership of that patent by the Weatherford Spring Company?

A. It indicated the privilege to use that patent number [2136] for whatever purpose it was to be used for.

Q. Now, was there any reason in formulating this catalog, Exhibit L, for not showing a differentiation between these two patent markings that I have pointed out, that you recall?

A. I could see none.

Q. You do not recall any reason or any consideration given to not differentiate between those two patents when the catalog was formulated?

A. No, because I know that your boys did not invent this scratcher and that it was a settlement agreement.

Q. You know, then, it is your statement, Mr. Hall, that when you published this catalog, Exhibit

(Testimony of John A. Hall.)

L, and distributed it to the trade, you knew then, according to your last statement, that the scratcher that is shown in that figure was not covered by that patent which is marked under the picture, is that correct?

Mr. Scofield: If your Honor please, I object to this examination. It is entirely outside the scope of the direct examination. Furthermore, I don't see any purpose at all in questions to this witness in regard to this catalog. It has not been shown that he had anything to do with the publication of the catalog. As to what these notations may mean in the catalog, I can't see that that has anything that is pertinent.

The Court: Is it in evidence that this witness had anything to do with its publication? [2137]

Mr. L. E. Lyon: I would not be able to recall, your Honor, from the standpoint of the witness' testimony at four different times. I believe that he has testified with regard to this catalog. That is my belief.

The Court: Hadn't you better cover that and show the facts?

Mr. L. E. Lyon: I have that he distributed it personally at this show in 1947, this particular catalog, your Honor.

The Court: Your question assumes that he had some part in the publication, so I suggest that you phrase it so it will not assume facts not in evidence.

Q. (By Mr. L. E. Lyon): You were with

(Testimony of John A. Hall.)

Weatherford Spring Company in 1946 and 1947, were you not? A. I was.

Q. In fact, you were working quite closely with your father in the distribution and sale of scratchers and centralizers at that time? A. I was.

Q. And were working quite closely with him in the operation of the Weatherford Spring Company?

A. I was.

Q. And you worked with him in the preparation of written material for publication, didn't you?

A. I worked with him to some extent. [2138]

Q. And you worked with him in the preparation of the advertising material in catalogues, didn't you? A. I did.

Q. And you worked with him in the preparation of this particular catalog, Exhibit L, didn't you?

A. I did.

Mr. L. E. Lyon: I ask that the previous question be read to the witness, the one that was not answered.

The Court: I suggest that you reframe it.

Q. (By Mr. L. E. Lyon): Well, the question was that when you distributed this catalog—and I mean by “you” personally and the Weatherford Spring Company, and by “this catalog” I mean Exhibit L—it is your position that you knew at that time that the scratcher like Exhibit 40 was not covered by the Patent No. 2,374,317?

A. Now, wait a minute. State that over.

(Testimony of John A. Hall.)

Mr. Scofield: I object to that. It asks for a legal conclusion.

The Court: Objection overruled. It is asking him for a state of mind, as I understand the question.

Mr. L. E. Lyon: That is correct.

The Court: What he knew or what he believed.

Mr. L. E. Lyon: Read the question.

The Court: Please read the question to the witness.

(Pending question read.) [2139]

The Court: The question is what the witness himself knew.

Mr. L. E. Lyon: That is correct.

A. I did not know any such thing.

Q. (By Mr. L. E. Lyon): Well, was it your belief at that time that the scratcher like Exhibit 40 was not covered by the Wright Patent No. 2,374,317?

A. It was my belief that we were operating under certain privileges granted us under that patent number.

Q. Well, now, just answer the question, please.

A. I have answered it. Whatever privileges came out of that number, it was my belief that we were operating under those privileges, if we used them.

Q. Well, all right. Now, at the time that you distributed this catalog, Exhibit L, in 1947—and I mean you and the Weatherford Spring Company—was it your belief at the time that you printed this catalog, Exhibit L, that the Patent No. 2,374,317

(Testimony of John A. Hall.)

was invalid and did not cover your scratcher of Exhibit 40?

Mr. Scofield: I object to that, your Honor. This witness isn't qualified.

The Court: It is compound, too. Do you mean to ask him if he believed that the patent was not valid?

Mr. L. E. Lyon: Yes, your Honor.

The Court: You may answer that [2140] question.

The Witness: If I believed that the patent was not valid?

The Court: That is my understanding of it.

Is that the question, Mr. Lyon?

Mr. L. E. Lyon: Yes, your Honor.

A. That legal conclusion did not enter my mind at that time, I don't believe, sir.

Q. (By Mr. L. E. Lyon): Did you believe at the time of the publication of this Exhibit L that the scratcher of Exhibit 40 was not covered by the Wright Patent No. 2,374,317?

A. The scratcher as it sits here in the air——

Q. Now, you are waving Exhibit 40.

A. That is correct—is not the complete tool as I see it. It takes the scratcher to be on the pipe.

Q. Just answer.

A. Now, then, there is the manner in which the scratcher is put on the pipe. If it is put on, soldered on the pipe, welded directly to the pipe, that is one thing. If it is loose on the pipe between lugs, that is another thing. Both methods to me are patentable methods. As I saw your patent, your

(Testimony of John A. Hall.)

scratcher was connected directly to the pipe, and many times I had seen them welded directly to the casing, and should anyone weld any of our scratchers directly to the casing, that most assuredly, I felt, would be coming under that patent. [2141]

* * *

Q. (By Mr. Lyon): In this photograph that is in the background, with the red scratcher in it, is it your statement that you intended to indicate that that scratcher in that photograph was welded to the pipe?

A. Mr. Lyon, you know that no pipe is shown there.

Q. And there isn't any indication, anywhere in that catalog, of any welding in connection with Patent No. 2,374,317?

A. I have not read this catalog just now, Mr. Lyon. [2142]

* * *

A. I haven't read this catalogue just now. However, I know that in some previous catalogue there was mention of it and in later catalogues there was mention of it. I knew also that people would invariably install scratchers on the pipe by welding them if you weren't there, and I wanted—that is enough.

Q. (By Mr. L. E. Lyon): Let us go back and see if we can get an answer to this question that you have not answered.

A. Now, what question is that?

(Testimony of John A. Hall.)

Q. And that is what you thought or what you had in mind, if anything, as to whether the scratcher first shown in the photograph on page 2 of Exhibit L was or was not covered by the patent which is numbered under the picture?

A. The scratcher as shown, the centralizer shown, means they are in this catalogue for one reason and one reason alone, and that is that they shall be used on the pipe, be sold to be used on the pipe in some fashion or other. Therefore, with that conclusion, the scratcher is absolutely useless. You might use it as a flower pot or something like that, but it is absolutely useless unless it is on some device for which it may be used. And that is the way I look at this cratcher or this centralizer or any other tool that is used for any purpose.

And with that conclusion, its use, or that scratcher when used for whatever purpose that that patent was intended [2143] for. I mean the coverage there covered it.

Q. All right. Now I will hand you Exhibit FFF.

* * *

Q. (By Mr. L. E. Lyon): Here is another catalogue, Mr. John Hall, and I will ask you if you also aided in the preparation of this catalogue, and this catalogue is Exhibit FFF?

A. I certainly did.

Q. Now, this catalogue was published before or after Exhibit L?

A. The catalogue was published after Exhibit L, as I recall.

(Testimony of John A. Hall.)

The Court: Exhibit FFF-1 I asked the clerk to place there before you, I think. Is that a page out of the catalogue Exhibit FFF?

Mr. L. E. Lyon: That is a page out of the catalogue Exhibit L, I believe, your Honor.

The Witness: This is out of the Oil Weekly, sir, and it [2144] is a front page. Apparently this catalogue was printed in the Oil Weekly.

The Court: FFF-1?

The Witness: Yes. The entire catalogue was printed in the Oil Weekly and then also printed separately.

The Court: Very well. I should not have interrupted. Your attention is being directed to FFF.

The Witness: That is all right.

The Court: I thought perhaps FFF-1 might have been overlooked.

The Witness: Was your question——

Q. (By Mr. L. E. Lyon): This catalogue was published and distributed at the Tulsa Oil Show held in Tulsa, Oklahoma, during May of 1948; and was distributed by you and the Weatherford Spring Company at that oil show, was it not?

A. May, 1948?

Q. Yes.

A. Now, you have testified that there was an oil show——

Q. I have not testified.

A. ——in 1947 and one in '48.

Q. Yes.

A. Do you know that to be a fact?

(Testimony of John A. Hall.)

Q. I haven't testified to anything. I asked you a question.

A. Maybe you better find out the dates of these oil [2145] shows.

The Court: The question is: Do you remember such an oil show?

Q. (By Mr. L. E. Lyon): In May of 1948 at Tulsa, Oklahoma?

The Court: If you do not remember——

A. I don't recall one being held. I don't recall any being held a year apart.

The Court: Do you recall one being held in 1948 at Tulsa?

The Witness: I recall one being held in either 1947 or 1948.

The Court: At Tulsa?

The Witness: Yes, sir.

Q. (By Mr. L. E. Lyon): If one was held in 1948, as you have just testified, was this Exhibit FFF distributed at that show?

A. Now, let's say that the catalogue was distributed.

Q. Well, just answer the question.

A. You are trying to trick me into something.

Q. No, I am not trying to trick you.

A. There is a date as to these oil shows. Why don't you produce them and I will testify that whatever catalogue that we were using at that time, that we had those catalogues at that oil show. [2146]

Mr. L. E. Lyon: All right.

Mr. Scofield: Maybe we can stipulate, your

(Testimony of John A. Hall.)

Honor, as to what years the oil shows at Tulsa were held. I don't know.

The Witness: As if the oil shows made any difference.

Mr. Scofield: I don't know what year it was. Maybe Mr. Lyon has that information.

Mr. L. E. Lyon: I am asking the witness if this catalogue was distributed by him at an oil show held in Tulsa in May of 1948.

The Court: He says he does not remember whether there was such a show.

Mr. L. E. Lyon: Well, I thought in answer to your Honor's question he thought probably there was one that year.

The Court: That was not my understanding. If you can stipulate that an oil show was held in Tulsa in May of 1948, he may answer.

Mr. L. E. Lyon: I will so stipulate. I will so stipulate that there was one held in May of 1948 at Tulsa. The oil show was held there in May of 1948.

The Witness: Will you stipulate that one was held——

The Court: Just a moment. You stay out of this. You are the witness, Mr. Hall.

The Witness: All right. Excuse me.

The Court: You just answer the question, unless you do not feel you understand the question. If you understand the [2147] question, you may answer it.

Will you so stipulate, Mr. Scofield?

Mr. Scofield: Yes, sir; I will stipulate that they held one in 1948.

(Testimony of John A. Hall.)

The Court: May of 1948, in Tulsa, Oklahoma.

The Witness: Yes, this catalogue was shown there. In 1947 there was no oil show there then.

Q. (By Mr. L. E. Lyon): Now, this catalogue you refer to is Exhibit FFF, is that correct?

A. Yes. I think we ought to correct the other testimony, if I said that it was shown in 1947 at the oil show. There was no oil show there.

Q. If there was no oil show there, it can stand no correction.

A. You were attempting to put it into me that there was.

Mr. L. E. Lyon: I was not attempting to put anything.

The Court: Proceed, gentlemen. Drop all this colloquy. If you will just answer the questions, Mr. Hall, Mr. Lyon will just ask them.

Q. (By Mr. L. E. Lyon): About this time of this oil show in 1948 did you receive any inquiry from the trade with respect to your marking in your catalogue of the Wright patent No. 2,374,317 under your structures as exemplified by Plaintiff's Exhibit 40? [2148]

A. I don't recall of any such inquiry at the oil show.

Q. Did you receive any such inquiry at any time during the year? A. I am sure that we did.

Q. Were those inquiries in writing?

A. I don't know that they were in writing. They were most assuredly made verbally.

Q. Isn't it a fact, Mr. Hall, that throughout

(Testimony of John A. Hall.)

these two years of 1947 and 1948 that you received from the oil companies many, many inquiries with respect to your marking of this patent number under the picture of your scratcher as exemplified by Exhibit 40 and shown by both these catalogues, Exhibit L and Exhibit FFF?

A. What does your term "many, many," include?

Q. Would it include almost all of your customers, almost all of the oil company customers?

A. Oh, I doubt that is correct.

Q. Well, would it have been 50 per cent of them?

A. I think that—it would include an awful lot of customers. Whether it was 50 per cent or not I wouldn't say. I wouldn't go to that figure. It may have been more, it may have been less, but it was a lot of customers.

Q. It was an awful lot of customers is the way you would put it, is that right? [2149]

A. There were a lot of customers that you people were going to——

Q. Well, just answer my question. Don't volunteer something. There was an awful lot of customers.

The Witness: Read me the question now.

Q. I said it was an awful lot of customers.

The Witness: No, no, your previous question.

Q. All right. My previous question was the same question: It was an awful lot of customers.

The Witness: Well, your previous one.

(Testimony of John A. Hall.)

Mr. L. E. Lyon: The reporter will read you any question you want.

The Court: Put another question, Mr. Lyon. He has answered that. He said, "An awful lot of customers," didn't he? There is no point in having him repeat it.

Mr. L. E. Lyon: No, none whatsoever if it is the understanding that he so testified.

Q. You have testified that you aided in the preparation of the advertising literature of the Weatherford Spring Company. I will place before you an advertisement that appeared in the August, 1948, issue of *The World Oil*, of the Weatherford Spring Company, which is Exhibit BC.

I had better have Exhibit BC to be sure that that numbering is correct.

Your Honor, I think it would be advisable, in view of [2150] the torn and perhaps unreadable condition of BC, to substitute a black on white photostat for the other one, this one being torn on the side, and this one the tearing being replaced so it is readable.

Will you stipulate that that substitution can be made?

Mr. Scofield: Yes, that is correct.

The Court: Very well.

Q. (By Mr. L. E. Lyon): I place before you Exhibit BC and will ask you if you aided your father in the preparation of that advertisement while you were with the Weatherford Spring Company?

(Testimony of John A. Hall.)

A. I had nothing to do with this, with the preparation of this ad.

Q. You had nothing whatsoever to do with it?

A. No.

Q. I place before you a Weatherford Spring Company catalogue which is Exhibit—maybe it is 4. There is a duplication there of 4.

The Clerk: 4 is a catalogue.

Q. (By Mr. L. E. Lyon): Exhibit 4 and ask you if you had anything to do with the preparation or distribution of that catalogue?

A. I did. I collaborated in the preparation of it.

Mr. Scofield: Your Honor, I don't believe that that is Exhibit 4. I think that is Exhibit NN. Let's see the [2151] front page of it. I beg your pardon. That is Exhibit 4. That is Exhibit 4.

Mr. R. F. Lyon: I have also a note here that that is Exhibit 43. I wonder if we could get 43 out, too?

The Clerk: No, sir, you can't. I don't have any 43. I have never been able to find 43 since the case started.

Mr. L. E. Lyon: 43 was never offered in evidence. It was apparently the same catalogue.

The Court: May it be stipulated Exhibit 43 for identification, as appears in the record, referred to a document which is identical with Exhibit 4 in evidence?

Mr. Scofield: Yes, sir. Exhibit 4—

The Court: So stipulated, Mr. Lyon?

(Testimony of John A. Hall.)

Mr. L. E. Lyon: Yes, your Honor. There is no 43 in evidence. 43 for identification is Exhibit 4.

The Court: In evidence?

Mr. L. E. Lyon: In evidence.

The Court: Very well.

Q. (By Mr. L. E. Lyon): Was this Exhibit 4, the catalogue of the Weatherford Spring Company that was distributed prior to the distribution of the catalogue Exhibit L?

A Let's see catalogue Exhibit L. It is the one with the white background, isn't it? Yes, this is the one that was distributed prior.

Q. And up to and immediately prior to the distribution [2152] of Exhibit L and for some matter of a year or two preceding that, the only catalogue used by the Weatherford Spring Company was Exhibit 4, was it not? A. That is correct.

Q. And this catalogue, Exhibit 4, actually was brought from Weatherford, Texas, or copies of it, by you in October of 1944, when you came out in a car with those copies in the back, isn't it?

A. That I don't recall.

Q. Well, you do recall coming from Weatherford, Texas, to Long Beach or to Los Angeles in October of 1944. Do you recall handing copies of that catalogue when you arrived here from Weatherford, Texas, to Roland Smith in October of 1944?

A. If I handed them to him, I certainly handed them to him. I am not denying any date of publication. As far as if I carried them with me or if they were in my briefcase, they were in the briefcase.

(Testimony of John A. Hall.)

They may have been in the back of the car. I don't know.

Q. If you have no recollection——

A. I don't recall whether they were in the back of the car or not.

Q. If you have no recollection of bringing the catalogues out from Weatherford, Texas, to Los Angeles in October of 1944, just say so. [2153]

A. I don't have any specific recollection at this moment.

Q. All right. Mr. Hall, in 1949 you carried around with you on a piece of paper in your brief-case copies of certain claims which you showed to people. Do you recall that? A. I do.

Q. What claims were those?

A. Whatever claims that were allowed us at that time.

Q. And to whom did you show those claims in 1949?

A. I showed them to whoever asked us if we had a license, had an agreement with B & W.

Q. Did you show those claims to Mr. Edwards connected with the Union Producing Company?

A. I surely did.

Q. About June 22 of 1949?

A. I did. He asked me if he could take a look at them.

Q. How did he know about them?

A. I don't know. He was your lawyer at that time. I mean your representative.

Q. How did he know about them? How did he

(Testimony of John A. Hall.)

know about those claims if you didn't tell him about them. A. Mr. Barkis had apparently——

The Court: The question is: Did you tell him about [2154] them?

The Witness: Oh. You mean how did he know about the claims that I had?

Mr. L. E. Lyon: Yes.

The Court: You cannot know how he knew. The question is: Did you tell him about them? That is the question.

A. Yes, I told him that I had—he asked me if we had claims and I said, “Yes,” we had some claims that were allowed.

Q. (By Mr. L. E. Lyon): And then you showed him the claims? A. I did.

Q. Did you tell anyone else about those claims?

A. Now, what do you mean “anyone else about those claims”?

Q. Well, did you describe the claims to him, tell him that they covered this or they covered that?

A. I didn't need to describe them. He read them and handed them back to me.

Q. Did you tell him those claims covered any structure manufactured and sold by B & W?

A. I don't specifically recall that I did. [2155]

Q. You wouldn't say that you didn't?

A. I wouldn't say that I didn't.

Q. Now, to how many other people connected with the oil companies during the year 1949 did you show those identical claims?

(Testimony of John A. Hall.)

A. That is something that I just don't recall. I probably showed them to several.

Q. What do you mean by "several"?

A. Well, I mean several.

Q. Well, was it 15, 20? You were calling on the trade generally at that time, weren't you?

A. I was calling on the trade generally.

Q. Was there anybody that you called on that you didn't show it to? A. Why, certainly.

Q. How many?

A. Probably most of the people that I called on, I didn't show them to.

Q. All right. Then how many did you show it to?

A. I don't recall.

Q. Well, was it a matter of 10, 15, 20?

A. Mr. Lyon, I do not recall.

Mr. Scofield: I think the question has already been answered, your Honor. He said he does not recall. I object to it. [2156]

Q. (By Mr. L. E. Lyon): Now, have you a copy of the claims that you were showing to the trade as you have testified, which you showed to several people in 1949?

A. I don't have a copy. Whatever claims that were allowed then and that were furnished me at that time, furnished us at that time by Mr. Scofield, those were the claims that were shown.

Mr. L. E. Lyon: May I make request at this time, of Mr. Scofield, that he supply us with a copy of the claims that he gave to this witness?

(Testimony of John A. Hall.)

The Witness: Not to "this witness." To our office.

Mr. L. E. Lyon: Or to Weatherford Spring Company, in 1949, and which the witness used as he has testified.

Mr. Scofield: If any of those claims were allowed at the time that the witness is referring to, they are now in evidence in the exhibit of No. 627,013, which is Exhibit K, I believe.

Q. (By Mr. L. E. Lyon): Were these claims set forth in a letter written to the Weatherford Spring Company by Mr. Scofield?

A. That I don't recall.

Mr. L. E. Lyon: Well, I will still ask that the copy of the claims that was supplied by you to this witness and used by him as testified be produced. Mr. Scofield.

Mr. Scofield: Well, I have no recollection of sending [2157] any claims to this witness or to any one of the Weatherford Spring Company. If there is any such letter, I will produce it.

Mr. L. E. Lyon: Is it my understanding that you take the position that you didn't send any such claims to him as he is testifying?

The Witness: I haven't testified——

The Court: Just a moment. You stay out of this until you are asked questions.

The Witness: I am sorry.

Mr. Scofield: I have no recollection of that letter, your Honor.

The Court: I hope I do not have to caution you about that again.

(Testimony of John A. Hall.)

The Witness: I am sorry.

Mr. Scofield: I have no recollection of that letter, your Honor.

The Court: Do you have your file of correspondence here?

Mr. Scofield: Yes, I think I have the file. It would be, of course, in the file of this case, and I have that file, but I haven't it here in court.

The Court: Can you make a search——

Mr. Scofield: Yes, sir.

The Court: ——to see if such a letter was sent?

Now, I understand you will do so and you will report [2158] later in the day about it?

Mr. Scofield: Well, I may not be able to do it at the noon hour, but I will certainly do it tomorrow morning.

The Court: Very well.

Mr. L. E. Lyon: If I stated in questioning a minute ago the "Weatherford Spring Company," your Honor, with respect to 1949, may it be understood that we were referring to the Weatherford Oil Tool Company and not to the Weatherford Spring Company?

May that be understood, Mr. Scofield.

Mr. Scofield: It will be understood.

The Court: Did you so understand it, Mr. Hall?

The Witness: Yes. I so understood it.

Mr. L. E. Lyon: May I have Exhibit FFF?

Q. I place before you Exhibit FFF, and refer to page 11 of Exhibit FFF, and will ask you if you

(Testimony of John A. Hall.)

personally weighed the scratchers, the centralizers, and tabulated the weights for use in this catalog as shown on page 11 of Exhibit FFF.

A. It is probable that most of these weight figures are from the previous catalog, which figures were obtained by Roland Smith and I.

Q. From actual weight of the structures?

A. No.

Q. Didn't you weigh the structures out in the shop?

A. In some cases we would get a heavy collar and get [2159] the heaviest springs that we had there, and weigh the collars——

Q. Now, answer.

A. Now, wait a minute—and weigh the collars and the springs together. That is the way we would get the weights.

Now, all the sizes were there, and consequently, as I recall, we were doing this on a Saturday or on a Sunday——

Q. I am not limiting that to scratchers or to centralizers. This table on page 11 includes the weights of scratchers. Now, did you actually weigh the scratchers?

A. No. We did not. There were some scratchers that we weighed. There were others—and I am referring to when Roland and I arranged the weight figures—that weren't even made, that we had arrived at a calculation on.

Q. All right. Now, a 7-inch and a 5½-inch both

(Testimony of John A. Hall.)

were pretty common sizes at that time, weren't they?

Mr. Scofield: Objected to.

Mr. L. E. Lyon: They both were made?

Mr. Scofield: Objected to as indefinite, unless you specify with reference to a 5½-inch or a 7-inch scratcher or centralizer.

Q. (By Mr. L. E. Lyon): Both scratchers and centralizers?

A. Yes, they were both commonly made.

Q. And they were the most common sizes?

A. That is correct. [2160]

Q. And they were in existence?

A. There were those sizes in existence, yes.

Q. And the sizes of the structures that were in existence, you weighed, didn't you?

A. Yes, we did, we weighed those in existence, but not necessarily was that figure put down in that catalog.

Q. You mean you weighed them and put down some other figure in the catalog?

A. Yes, we did. Yes.

Q. All right. What did they weigh?

A. I don't recall just at this time what they did weigh. We weighed the heaviest, we figured out the heaviest weights so that in making estimates we would not under-estimate the weights.

Q. Now, you have here what you call a 7-inch reversible scratcher in the catalog, and in that column the price set forth is \$8.25, and the weight is

(Testimony of John A. Hall.)

set forth as 2½ pounds. Was that weight obtained by weighing the scratcher?

A. It will be noted that there are two elements of weights.

Q. Just answer the question, please.

A. There are two elements of weights, one under standard type and one under close-tolerance type, and that the weights for both scratchers are shown to be the same here. As I recall, with respect to the scratchers, we [2161] called it in quarters, to the nearest quarter of a pound, and where we weighed the scratchers, on that we called it on the high side. I cannot and will not say that we weighed the 7-inch close tolerance. It should weigh a little less, because it takes a little less material there.

Q. Then, my understanding of your testimony is that you weighed these structures to the nearest quarter pound and took the highest nearest quarter pound as the figure that you put in this catalog?

A. On the scratchers, yes. On the scratchers. Not on the centralizers. And that was only on those scratchers that we weighed, that we had. had to weigh.

Q. Now, when was it, Mr. Hall, to your recollection, that you reduced in the spiral centralizer the length of bows down to 31 inches?

A. I don't recall when the reduction was specifically, because I was out in the field selling, and the materials that I usually ran into out there, very often we had them in stock, and also materials were shipped to me from the warehouse, some of which

(Testimony of John A. Hall.)

had been made up before, made up earlier. In other words, the material wasn't made necessarily on the day or the day before of the use of the material.

Q. That reduction was from what, from 37 inches previously, of the length, previous length?

A. I believe that the lengths should certainly be of [2162] record.

Q. Well, don't you recall?

A. I do not specifically recall the lengths of the springs.

Q. Now, you have been connected with the Weatherford Oil Tool Company.

I will ask to have Exhibit AZ.

I put before you Exhibit AZ—and this is a catalog which was published by the Weatherford Oil Tool Company while you were an officer of that corporation, was it not? A. It surely was.

Q. Did you discuss that publication and its showings prior to its publication with anyone in the Weatherford Oil Tool Company?

A. Oh, I am sure I did.

Q. You aided in the preparation of this catalog, Exhibit AZ, did you? A. Yes.

Q. Now, this catalog was published, according to the printer's notation in the flyleaf, as "GC-6-49." Does that mean that it was published in June of 1949? A. On or thereabouts.

Q. Now I will refer you to page—What is the page? A. Page 4927.

Q. —page 4927 of Exhibit AZ, and to the weight table set forth on that page, and I will call

(Testimony of John A. Hall.)

your attention [2163] to the fact that the 7-inch spiral centralizer, as shown on that page, which was priced at \$33.00, is shown to have a weight then of 21 pounds. Did you weigh the centralizer for the preparation of this weight table?

A. The 7-inch shows 21. I made none of these weight calculations here.

Q. Does this reduction of about one-sixth of the weight from the previous 7-inch centralizer, in your opinion, reflect the fact of approximately one-sixth reduction in the length of the bows of the spiral centralizer?

A. I do not know what this reduction meant because I do not know what basis the weights were figured on.

Q. Does the fact that this 7-inch centralizer is shown to have been reduced in weight about one-sixth from that shown in the prior catalog indicate to you that this was about one-sixth shorter than the prior centralizer?

A. That it was about one-sixth shorter?

Q. Shorter.

A. Than the prior centralizer?

Q. Yes. A. It does not.

Q. It has no reference to it?

A. It does not indicate to me, absolutely not, because of the way we figured the others.

Q. There was, however, such a reduction of about six [2164] inches in the length of the bows of the centralizer somewhere between the period of the catalog, Exhibit AZ, and the publication of the catalog, Exhibit FFF, isn't that correct??

(Testimony of John A. Hall.)

A. In some cases there could have been more. It was probably——

Q. I am talking about the 7-inch.

A. ——it was somewhere around 6 or 8 inches, or more, probably. It could have been even more than that. It may have been 12 inches.

Q. You recall, however, the reduction to 31 inches of the 7-inch size, don't you?

A. On the over-all length?

Q. On the length of the bows.

A. I don't recall of specifically 31 inches, no, I do not. I recall a reduction, but as to the specific reduction I do not make that recollection.

Q. In the cementation of an oil well, using your scratchers and centralizers, either the straight or spiral type of centralizers, or using merely the scratchers alone, and where the casing is reciprocated during the time of the circulation of the rotary drilling mud and during the time of pumping the cement into place, is the casing used as a medium of carrying the oil to the surface after the well is brought in?

A. Now, will you ask that question again, please, now? [2165]

Q. Well, you pump, you produce through the casing, that is what I am asking you.

A. Ask the full question, please.

Mr. L. E. Lyon: All right. Read the question.

(The question referred to was read by the reporter.)

(Testimony of John A. Hall.)

A. At a later date, I mean after the cementation, the casing serves to hold the formation back, hold the water out, and very usually you will put—it is the general practice to run a string of tubing on the inside of that casing and then produce it to the surface through the tubing. [2166]

Q. And through the casing?

A. The tubing being on the inside of the casing, yes. In other words, it goes through the tubing which is on the inside of the casing.

Q. After cementation of the casing in the position that you have testified, the casing is perforated, is it not, by gun perforation or other method?

A. If the casing is—if the well is not produced from an open hole, the casing is either—sections of it are either cut out, acidized out, or holes are—I mean complete sections are either cut out or acidized out or holes are put through the casing in some fashion or other, through the casing and out through the cement and out to the formation in some fashion or other to allow the oil to come on the inside of the casing.

Q. When sections of the casing are removed as you have testified, they refer to that as “windows,” do they not?

A. Not necessarily. A window is out of the side of the casing. Maybe you can call that a section of the casing. They make both windows—in some cases they will take the complete circumference of the casing out in a section; they will cut it out.

Q. Now, you have been on a well using your

(Testimony of John A. Hall.)

scratchers on a casing where you have placed a plug in the well, have you not? [2167]

A. On a casing?

Q. Yes, or on a drill pipe or on what is commonly referred to under that circumstance as a wash pipe, haven't you?

* * *

A. Only recently I was on a—I will say “recently” I was on a job where we placed a plug in the well, where we were using both scratchers and centralizers on the casing, [2168] while we were—in other words, placed a plug below the shoe.

Q. (By Mr. L. E. Lyon): In that case you were using what is called a wash pipe on the end of a drill pipe or other pipe or casing, or whatever you want to call it, were you not?

A. Using the washpipe?

Q. Yes, a perforated pipe at the bottom.

A. If the casing shoe having a hole through it, through the bottom, yes, the casing shoe would be. It is about a foot long. It conducts fluid to a foot and a half long or something like that, conducts the fluid through it.

Q. And it has apertures to let the fluid which it is conducting out into the formation in the well, doesn't it?

A. It has a hole through it that you pump the fluid down through it and up on the outside into the annulus.

Q. Immediately above that shoe you have placed scratchers?

(Testimony of John A. Hall.)

A. Scratchers and centralizers.

Q. How many scratchers?

A. Let's see. We had, I believe, seven scratchers and two spiral centralizers on this bottom joint of pipe, and we installed a 15-foot cement plug.

Q. Then what did you do?

A. I say, on this bottom joint. I will say on the [2169] bottom, let us say, 45 feet of pipe. Then after we installed the—when I was sure, when I felt sure that the plug was in place, my instructions were to pull up out of it.

Q. To what?

A. My instructions were to pull up out of it.

Q. Pull up out of it, you mean remove the pipe?

A. Remove the scratchers and centralizers from the so-called placement plug.

Q. Then what was done?

A. Then the cementing operation was continued until the plugs bumped.

Q. What was done with the plug that was formed?

A. The plug that was formed was, of course, formed.

Q. Well, was it subsequently partially drilled out, or side-stepped, or what was it placed in the well for, this particular plug?

A. I don't recall whether it was subsequently drilled out. It could have been. It was placed there, as has been a common practice. It was placed there to create a temporary new bottom.

Q. A temporary barrier?

(Testimony of John A. Hall.)

A. Well, let us say a temporary or permanent new bottom, whatever purpose that they wanted to use it for.

Q. You don't recall how this well, or whether it was subsequently produced, do you? [2170]

A. They could have gone deeper. I don't know if they went deeper. Their intentions were to test zones and if they were unproductive, why, they could have surely gone deeper.

Q. Your position is, then, that this plug could have been either a bottom plug or a bridge, as they are commonly used in the art?

A. The plug was placed up the hole, of course, and it was—I would call it a bridge plug. It was used for the purpose of creating a new bottom.

Mr. L. E. Lyon: Just one moment, please. May I have Exhibit B?

Q. I place before you Exhibit B, that is the September 11, 1941, advertisement of the Weatherford Spring Company, and call your attention to the sentence in the last paragraph of that ad which reads:

“However, the scratchers may be welded direct to the pipe, and this procedure is not uncommon.”

Your statement there is that at that time, as far as Weatherford Spring Company scratchers were concerned, it was not uncommon to weld them to the pipe.

A. Are you asking me if this was my statement, or if that was a practice there?

(Testimony of John A. Hall.)

Q. If that was a common practice at the time to weld Weatherford Spring Company's scratchers to the pipe as it states. [2171]

A. This is what date, now? September 11——

Q. September 11, 1941.

A. ——19 and—let me say this: that I had not at that time seen any of our scratchers welded to the casing. I didn't have anything to do with the preparation of this catalog. * * *

Mr. L. E. Lyon: What I asked you was——

* * *

Q. (By Mr. L. E. Lyon): ——was it common practice at this time, as stated in this advertisement, to weld Weatherford scratchers to the pipe?

A. You are going to have—on that subject all that I can state as to what I was attempting to do at that time——

The Court: No one asked you that. No one asked you that. I wish you would listen to the questions, Mr. Hall.

The Witness: All right.

The Court: The question is, was it a common practice at that time? I don't know. Are you in the well-drilling business? Are you drilling wells yourself?

The Witness: I was working in the oil fields at that time, sir. [2172]

The Court: All right. The question is: Was it a common practice? Not with you, but with anyone in

(Testimony of John A. Hall.)

the business, to do that with Weatherford scratchers at that time? That is the question.

The Witness: That is a question, sir, that I don't know. I don't know.

The Court: Well, then, say you don't know.

The Witness: I didn't know what was being done.

The Court: Let us get on with this. Say you don't know. You do not have to know everything. Just answer the questions.

Q. (By Mr. L. E. Lyon): Also in this advertisement, Exhibit B it says:

“The scratchers are usually anchored in place by welding small lugs above and below, allowing for approximately 10 inches of up-and-down play.”

Was that method of mounting the scratchers common in the trade at that time, at the time of this advertisement?

A. That was the method that I was pursuing in California.

The Court: Can't you just say yes or no sometime?

The Witness: Yes. [2173]

* * *

(Testimony of John A. Hall.)

Recross-Examination

By Mr. L. E. Lyon:

Q. I place before you, Mr. Hall, a letter, a photostatic copy of a letter of May 3, 1949, of the Weatherford Oil Tool Company, entitled "Announcement."

The Court: Has that been marked.

Mr. L. E. Lyon: No, your Honor. I will ask that it be marked at this time.

The Clerk: Defendants' Exhibit DN.

(The document referred to was marked Defendants' Exhibit DN for identification.) [2178]

Mr. Scofield: Let me see what you have here.

We will stipulate, your Honor, that that was an announcement that was sent out at the time that appears on it.

The Court: What is the date?

Mr. Scofield: May 3, 1949, your Honor.

Mr. L. E. Lyon: And I will offer the document heretofore identified as Defendants' Exhibit DN in evidence as Defendants' Exhibit DN, in view of the stipulation.

The Court: It is received in evidence.

(The document referred to, marked Defendants' Exhibit DN, was received in evidence.)

Q. (By Mr. L. E. Lyon): I will ask you if, on May 3, 1949, you were the secretary-treasurer of the Weatherford Oil Tool Company. That hasn't any-

(Testimony of John A. Hall.)

thing to do with the exhibit. Were you at that time the secretary-treasurer of the Weatherford Oil Tool Company? A. I was.

Q. All right. Now, this letter was sent out on May 3, 1949, announcing a 25 per cent over-all reduction in prices, was it not, to the trade?

The Court: By "this letter" you are referring to Exhibit DN?

Mr. L. E. Lyon: To Exhibit DN.

A. That is correct.

Q. (By Mr. L. E. Lyon): And that price reduction at [2179] that time was made to the trade to meet competition, wasn't it?

A. It was made to the trade for the reasons set forth there.

Q. And to meet competition, wasn't it? You were the secretary-treasurer?

A. To meet competition?

Q. Yes.

A. No. It was not made to meet competitive prices.

Q. Wasn't the Nu-Coil scratcher selling to the trade, of the 5½-inch size, for about \$6.00, where your scratcher was selling for \$8.00, of the same size? A. What size are you referring to, sir?

Q. The 5½-inch size.

Mr. Scofield: We will stipulate, your Honor, that according to Exhibit 118, which is the B & W price list, that the 5½-inch Nu-Coil scratcher was selling for \$6.00.

The Court: By B & W?

(Testimony of John A. Hall.)

Mr. Scofield: Yes, sir. And that, according to Exhibit 124, which was the weatherford Oil Tool price list effective January, 1, 1951, the 5½-inch scratcher was selling for \$8.00.

Mr. L. E. Lyon: I will accept the stipulation, if that stipulation may be understood to be an answer to the question that I asked the witness. [2180]

Mr. Scofield: And that the Multiflex scratcher of B & W of the same size, 5½ inch, was selling for \$8.70; and that the wall-cleaning guide, the same size, 5½ inch, was selling for \$8.70.

The Court: Is it so stipulated? [2181]

* * *

Mr. Scofield: * * * I Now, your Honor, renew my motion to produce the sales records of B & W, Inc., for the reason that Mr. Bowersock indicated in his testimony that the records of the purchases of these companies, of scratchers and centralizers, were necessary to complete the picture of the purchases of those companies throughout the period that the charts and the schedules covered.

I also renew the motion because it will not only show the scratchers and centralizers purchased by the companies covered by the schedules, but it will establish the type of centralizers and the type of scratchers, particularly, that [2187] were purchased, by the prices as indicated by the price lists which are already in evidence and which were referred to this morning, and these sales schedules or these sales records will also indicate the increase in the purchases by these companies of B & W scratchers

over the period where the same sales decreased on the Weatherford charts and schedules. And therefore, the motion, which I believe was made or was filed on November 13th, is renewed and I ask that these sales records of B & W be produced and be made available.

* * *

Mr. L. E. Lyon: Your Honor, at this time, I will resist [2188] the motion for production on two grounds: first, on the ground that there is no possible reason shown for the production of the books of the defendant, as no element of unfair competition has been proven, and certainly, as established by good reasoning, there is no reason for delving into the books of a party where there is no element of unfair competition and no possible reasonable results could be obtained.

Now, we have the claim of unfair competition, for example, as to the Gulf Oil companies, and we have this statement from the witness of the Gulf Oil Company, taken on behalf of plaintiff, that states unequivocally that there was no threat ever made against the Gulf, and that is the basis of their charge; that B & W made it clear at all times to the Gulf that they would never bring suit against the Gulf.

On the contrary, their testimony is that the plaintiff charged them with infringement and that they would bring suit.

Now, we can go right straight back through the companies in that way, and the evidence in that way,

and there is no possible claim of unfair competition that could be maintained here.

We have one basis, and that is unconnected, that we told people that we had patents.

I submit, under the patent laws of the United States, a [2189] person who holds patents must, if he proposes to have anything to do with those patents, advise the trade and advise the customers generally that he holds patents, or he may be charged even then with unfair competition for not doing it.

The Court: How could you hope to establish any claim of unfair trade practices relating to Gulf without producing the very records which are demanded?

Mr. L. E. Lyon: That may be on a matter of accounting, if we establish that, but that again is premature. The defendant has not put in its case and we will establish that from the fact not of proof of the amount of damages, but the amount of damages would be provable on an accounting only, as your Honor has already ruled. As to elements of unfair competition which might be enjoined, even without damage, we have in the record already that statement made and acted upon by the Gulf, that if the Gulf Oil Company purchased from B & W the certain type scratcher that is here in evidence, that Mr. Scofield stated definitely on July 29, 1947, that he would bring suit against them, followed with the record evidence of Dr. Foote's letter written by Mr. Vollmer, ordering that, pursuant to that, that no such scratchers be bought from this defendant. There is no such evidence of any kind.

Now, when we go into the Canadian situation, of Canadian Gulf, the facts are, as established by the depositions [2190] of Mr. Houghton and Mr. Littlehales, taken by the plaintiff, and again reiterated, that the B & W at no time threatened the Gulf with any Canadian patents, and that Gulf, through its own patent department, discovered the Canadian reissue patent, examined it, and had formulated its own opinion and asked for no statement of any kind from B & W with reference to that patent, other than the one statement asked of me, and that is how, as Mr. Houghton put it, "Did you get better claims in Canada than in the United States?" and my only answer to that is, as established by Mr. Houghton's testimony, which was that we were not responsible for the claims in the United States. That is all the conversation ever had between the Gulf and B & W with respect to the Canadian patent situation. That is established by their own witness called by them. That certainly cannot amount to unfair competition. And we could go right straight through the companies in that way.

If there is any basis upon which this charge of unfair competition could be possibly sustained, I think it should be aired right now, before a demand, based upon curiosity and to indulge in going through our books, is ordered by this court.

The Court: But from the evidence so far, I take it, upon this motion the court must draw every reasonable intendment in favor of the [2191] plaintiff.

Mr. L. E. Lyon: That is correct.

The Court: The evidence thus far shows that the plaintiff had some business and lost that business during a certain period.

Mr. L. E. Lyon: That is correct.

The Court: There are facts in evidence, I take it, from which it would be reasonable, or from which the reasonable inference might be drawn that some conduct of B & W may have contributed to that, may have been the proximate cause of losing the business.

Now, isn't it relevant to any proof of that to show that not only the plaintiff lost the business but that the defendant got the business?

Mr. L. E. Lyon: Are we going to bring in Halliburton's books, Larkin's books, Baker's books, and the rest of them? They are all testified to here to have been in the same business.

The Court: But they are not parties to this action.

Mr. L. E. Lyon: I know, but merely the fact that our business increased the same as theirs did, by their own records, it would not establish any such factor.

The Court: That might go to the weight of it, but not to the admissibility of the evidence. Of course, I take it that you may argue that even though plaintiff lost the business and even though B & W's business increased by [2192] the same amount during the period, that, non constat, the Gulf might have been buying twice as much during that period.

Mr. L. E. Lyon: That is right.

The Court: And that the business that the plain-

tiff might have lost might have gone to Halliburton, Baker, or whoever the other competitors might be.

Mr. L. E. Lyon: That is correct.

The Court: But that goes to the weight of it.

Mr. L. E. Lyon: But when you get down to where the item is insignificant as to the weight that can be given to it, and that is my position, even if it had any weight at all it would be so insignificant that it could really have no probative value whatsoever.

The Court: That is a matter of argument, Mr. Lyon.

I think the plaintiff is entitled to those records, that they are entitled to them insofar as their case goes, as to what happened to your clients' business, the business with respect to those customers during that same period.

Now, if you have comparable charts or records——

Mr. L. E. Lyon: We haven't any comparable charts or records. In fact, our books are going to show that we did business in Canada, for example, solely through supply companies. We have no records and absolutely no way of determining what oil company ever made a purchase. Those records are here in court, insofar as Canada is [2193] concerned. Our business is entirely with supply companies. Now, what good is that going to do?

The Court: I don't know what they will show.

Mr. L. E. Lyon: Well, I am saying, as far as the Canadian books are concerned, that is what they show.

The Court: But counsel is entitled to see what evidentiary proof he can get from them.

How do you wish to proceed, Mr. Scofield?

The motion will be granted.

Mr. Scofield: I should like to have the books made available and in the most convenient way that we can work at it, that is, if we are required to work here in court, or wherever our accountants can look over these sales records and make their schedules up from these records, which is, I think, more or less up to the court. That is, you indicated before that it would have to be done here in court. Now, if it can be done in Mr. Lyon's office——

Mr. L. E. Lyon: Not in my office.

Mr. Scofield: ——or at some place else, or in Mr. Subkow's office, that would be agreeable.

Mr. Lyon: If the order of the court is that we produce the records, the records will be produced here in court. [2194]

* * *

Mr. Scofield: Of course, we want these records of the companies that the schedules were here, so it is not limited to the Canadian.

The Court: They were embraced in your [2195] motion?

Mr. Scofield: Yes, sir.

The Court: And the motion was granted.

Mr. Lyon: I have here what I am informed are all of the invoices of sales in Canada through the independent contractor in Canada, acting under contract with the B & W. These invoices are an offer-

ing here at the present time and pursuant to the court's order.

The Court: Mr. Lyon, all of the supporting records will have to be produced if counsel insists upon them.

Mr. L. E. Lyon: We have no way of getting any supporting records for these, your Honor. This is an independent contractor and, in accordance with our contract, we are entitled to these records. We sell to this man in Canada. We have no say as to who he sells to. Our contract provides that he must supply us with copies of the invoices. We have demanded them according to that contract since this case started. We had never even demanded them before. They are here, sent to us from Canada, right here. That is all we could get.

The Court: That covers Canada. Now, what about the other customers, the Standard Oil Company, the Texas Company?

Mr. L. E. Lyon: As far as the United States is concerned, if there is to be a review of the records on that, we are informed by B & W that they would desire it in the office of their accountant, and where that is I don't know. [2196]

* * *

The Court: As I understand, you wish the records with respect to sales to Union Producing Company, Gulf Oil, California Company, Texas Company, Standard of California, Amerada Petroleum, covering the same period that is covered by the exhibits in evidence, namely, Exhibits 176 to 181,

both inclusive, which have been produced here on behalf of the plaintiff, is that correct?

Mr. Scofield: Yes, sir. I think that the demand is covered in our motion of November 12th which is on file with the clerk, but we have said——

The Court: If the records are produced covering the sales by B & W Company to those customers, if any, during [2197] the same period; in other words, if corresponding information to that covered in your Exhibits 176 to 181, inclusive, is produced by the defendant, I take it that is what you are after?

Mr. Scofield: That would be satisfactory. We would like the contracts with this Canadian company, to be sure as to just what the arrangement is up there, because it may be that what we have here will not be all that we will be able to get by means of the contract, you see. That is, the contract with the Canadian company, the Import Tools, is a firm in Canada. I don't know what their connection is with the B & W.

The Court: Very well, you may have the contract also. [2198]

* * *

The Court: As I understand it, the motion is limited to the production of your records which will show corresponding information with respect to your business with those companies which are named in and with which Exhibits 176 to 181 are concerned. I did not understand it to be a motion for all of your records for sales to everyone.

Am I correct in my understanding of it, Mr. Scofield? [2199]

Mr. Scofield: What I did, I renewed the motion, your Honor, that I had filed on November 12th.

The Court: I am not limited to that.

Mr. Scofield: But it will be satisfactory to get the sales records of B & W for the companies that we have offered, that is, 176 to 181, inclusive, over the period that those schedules and charts cover.

The Court: I understood your motion and when I granted it, I granted it on that basis.

Mr. Schofield: Yes, sir.

The Court: I thought I asked you that, that you want the records which will show the corresponding information.

Mr. Scofield: Yes, sir, I do; that is correct.

The Court: I think you gentlemen are intelligent enough to understand that.

Mr. L. E. Lyon: I do not want to leave the court under any misapprehension with regard to what is ordered to be produced or what may be expected to be produced.

It is my information that in the United States our business is through supply companies, again. We do not have such delivery tickets or such invoices which will show, in most cases, as I understand it, who the ultimate consumer was in a great many cases. In some cases we do, but it will be, as I understand it, quite fragmentary as to who the ultimate user was. And that is the condition of our records. We [2200] do not sell direct. In most cases——

The Court: Here is the situation, Mr. Lyon: You will have to produce all your records covering that period of time. We want to satisfy ourselves.

Mr. L. E. Lyon: Certainly. And that is why I am telling the court this. We will be glad to produce what we have.

The Court: What period of time is it?

Mr. Scofield: From 1946 to 1953, to October of 1953.

The Court: Beginning what time in 1946?

Mr. Scofield: January of 1946.

The Court: Very well. You may produce all of your records with relation to the sales and business transactions during that period, whatever is necessary to satisfy the plaintiff that they have exhausted the evidentiary possibilities for this purpose.

What I had in mind that you should produce or have your accountants produce is comparable information. We could proceed upon your showing in the same way we proceeded upon the plaintiff's showing, have the supporting data available.

Mr. L. E. Lyon: Where it exists we will produce it. I do not want the court to labor under the apprehension, however, that our records are going to be able to show where all scratchers or all centralizers were sold, because it is my understanding they do not so show.

Mr. Scofield: If they will produce the records, your [2201] Honor, we will leave it to the accountants to work that out as to just what the records show.

The Court: Very well. Can't you gentlemen arrange with your accountants to take that matter up?

Mr. Scofield: Yes, sir.

Mr. L. E. Lyon: I tell them that they will be

available even this evening if they want them. We will have to get in touch, I am informed, with the accountant and see if he is here. As far as we know he is here and available. [2202]

* * *

DEFENDANTS' CASE IN CHIEF

Mr. L. E. Lyon: Mr. Barkis, will you take the stand, please?

The Clerk: Have you been sworn, Mr. Barkis?

The Witness: No, I have not.

BRUCE BARKIS

called as a witness by the defendants, being first sworn, was examined and testified as follows:

The Clerk: Will you state your name, please?

The Witness: Bruce Barkis, B-a-r-k-i-s. [2204]

Direct Examination

By Mr. L. E. Lyon:

Q. What is your occupation, Mr. Barkis?

A. Manufacturer.

Q. Connected with what company?

A. B & W, Inc.

Q. Is B & W a corporation? A. Yes, it is.

Q. When was it incorporated?

A. I believe in 1939.

Q. What office do you hold with B & W, Inc.?

A. I am president of the corporation.

Q. Have you had that position at all times since its incorporation? A. Yes, I have.

(Testimony of Bruce Barkis.)

Q. What is your training and experience in petroleum engineering and in drilling and in operating the wells, Mr. Barkis, oil or gas wells?

A. I am a graduate engineer of the University of California in mining engineering.

Q. In what year?

A. 1917. After returning from France I went to work in the oil fields on Ventura Avenue, and shortly after, a year and a half after, went with the Division of Oil and Gas of the State of California. [2205]

Q. For how many years were you with the Division of Oil and Gas?

A. I was with them for two years as petroleum engineer, inspector and petroleum engineer.

Q. What were your duties?

A. In field testing of oil wells to establish rates of mud loss to wells, and tests of water shut-off, plugging effectiveness, and in the last year, as office engineer in reviewing applications to drill and establishing the requirements for drilling.

Q. What is the supervision of that board over drilling of oil and gas wells in the State of California, Mr. Barkis?

A. It is established by statute and is provided for the conservation of our natural resources.

Q. Does it maintain any permit jurisdiction in granting of permits to explore or drill for oil or gas in this state?

A. Yes, it does. Those are established by statute, and prior to drilling, an individual or an operator

(Testimony of Bruce Barkis.)

must file a petition to drill, and then the Division of Oil and Gas establishes the requirements for drilling and for protecting the oil resources.

Q. Do those requirements also deal with the protecting of the natural water resources of the state?

A. Yes, they do; that is right. They provide for the cementing of surface casing and the protection of the surface [2206] waters.

Q. All right. Now, after your employment by this bureau what was your next occupation in the——

Mr. Scofield: What date was that, Mr. Barkis?

The Witness: In 1922 and '23 I joined Pan-American Petroleum and other Edward L. Doheny companies in 1923.

Q. (By Mr. L. E. Lyon): In what capacity?

A. Field petroleum engineer for them in the Signal Hill, Torrance, Baldwin Hills in early drilling of that time. Mr. Wright, my partner, was also a field engineer for the same company at that time and that is where we first became acquainted.

Q. And when was that? A. In 1923.

Q. With this Doheny interests what were your duties?

A. The usual petroleum engineering duties having to do with the drilling of wells, the coring of formations. At that time there was no electrical logging, so we cored. And the running and cementing of casing, the drilling in of wells and the final completion of wells.

(Testimony of Bruce Barkis.)

Q. How long did you stay in that position?

A. I was with Pan-American until 1931, but in the latter part of the period I was at Kettleman Hills as assistant superintendent in the early development up there; from 1929 on in charge of the field operations. [2207]

Q. After 1931 were you connected with the petroleum industry?

A. I left the Pan-American and went with Rio Grande Oil Company as general field superintendent in charge of all of their production and drilling operations.

Q. Where were they located?

A. Their headquarters were here in Los Angeles, and their operations were located here, and also we had production in Texas.

Q. How long did you stay with that company?

A. Until they merged with Richfield Oil Company in 1937.

Q. Then what did you do?

A. I was over there for a short period as assistant manager of production, and left to join Lane-Wells who had developed a new method of gun-perforating casing, and I joined that company.

Q. And you stayed with that company until 1939? A. Early '39, yes.

Q. Then you formed B & W in the middle of 1939? A. That is correct.

Q. State the circumstances of formation of B & W.

A. Mr. Wright came to my home—and I had left

(Testimony of Bruce Barkis.)

Lane-Wells—and told me that he had developed an idea for getting better cement jobs. I had been with Lane-Wells and had traveled all over the United States and was very familiar [2208] with the problem. And he told me his ideas and it sounded reasonable. So we decided to go ahead and try to work something out.

Q. When was that? A. In 1939.

Q. In what part?

A. My recollection is that it was April, May somewhere in the spring.

Q. Now, you stated that you were familiar with the problem. What problem are you speaking of?

A. The problem of cementing and completing oil wells.

Q. What was the particular part of that problem that you had in mind, if anything? What was the particular problem?

A. Well, the problem was getting a good cement job. And in 1925, about, the first straight centralizers were introduced to the oil fields and came into general usage, but in California here it is general practice to cement the casing over the productive section, that is, at that time that was very nearly universal—not general, but universal—and it was only necessary to get a good cement job around the bottom of the casing to exclude any water or gas from above the productive section, and centralizers were helpful, but, in 1935, when the gun perforator came into use, a whole new series of events came into being. [2209]

(Testimony of Bruce Barkis.)

Down in the Texas Gulf-Louisiana Gulf Coast the sands are comparatively thin, and a new practice was developed of cementing casing through, through several of these sections, and then gun-perforating to allow the oil to come on into the casing.

Q. And gun-perforating only that particular sand that you wanted to produce from, is that right?

A. What is known as selective completion from each and every sand you felt that you wanted to produce from.

Q. Did that produce any particular problem in the oil fields? A. It certainly did.

Q. In what respect?

A. Well, where it had been rather—I won't say a simple matter, but fairly easy to get a good cement job around the bottom of the casing, as you went up above the cement depths, that is, the casing depths, several hundred feet or maybe several thousand feet, the cement itself would travel, would channel, and it would not take out in the annular space between the casing and the formation. And then, when the well was gun-perforated, the gas from above or the water from below would come in then through these perforations and contaminate the clean oil production.

The Court: Would it be necessary to fill that annular space with cement from the bottom of the hole on up to a [2210] point?

The Witness: To a point, I would say, to a hundred or a couple of hundred feet above the uppermost productive section.

(Testimony of Bruce Barkis.)

The Court: In order to make a good cementing job?

The Witness: Yes, sir. I won't say 100 per cent, but reasonably close to that.

Teplitz in his paper said that the usual casing cementation ends up—and Mr. Hall is very familiar with that—with the annular space half full of mud and half full of cement. So something had to be done about getting the other half of the mud on out.

Q. (By Mr. L. E. Lyon): Then, as I understand your statement, the particular problem that developed was to get a bond between the cement and what we would call the virgin formation?

A. That is correct.

Q. And you state that your company was formed by you and Mr. Wright with reference to that problem, is that right? A. That is exactly right.

Q. Now, after this B & W was formed in the summer, I believe, of 1939, what was done with reference to that problem, if anything.

A. Well, the idea was to develop equipment that would meet the requirements of field practice, to remove that mud [2211] cake. Mr. Wright's idea of scratching the mud from the formation face required the development of commercial products.

Q. All right. Now, you were in a state of development of the products then, I understand, from then during the remainder of 1939, is that true?

A. Well, yes, sir. In addition, I will say that there were several other ideas that we were trying to

(Testimony of Bruce Barkis.)

develop, having to do with sand control and other completion problems, but those were secondary.

Q. But your main occupation during the remainder of 1939 then dealt with this problem of getting a bond between the formation and the cement, is that correct? A. That is correct.

Q. Did anything else occur in the year 1939 which had a particular bearing on the development of that problem? A. Yes, there did.

Mr. L. E. Lyon: Just one moment.

I will state at this time that Mr. W. E. Nash, accountant for B & W, will be available at 2700 Cherry Avenue at any time after 8:00 a.m. tomorrow morning, with the books of B & W.

Mr. Scofield: That will be all right, then. That will be in plenty of time.

Q. (By Mr. L. E. Lyon): Now, what was it that occurred [2212] in 1939 that had particular bearing on the development of this problem?

A. The West Montebello oil field was being developed that year and there was a subsurface out there that was critical. There was a high-pressure water formation, water-bearing formation, that overlaid the oil-producing horizon by barely a few feet, just a few feet, I would say 12 to 20 feet, and the Union Oil Company was a large operator in that field.

Q. At approximately what depth was that condition?

A. I will have to guess. I will guess around 7,000 feet.

(Testimony of Bruce Barkis.)

Q. Around 7,000 feet?

A. It may not have been that deep.

Q. All right. Proceed.

Mr. Scofield: What date was this, too?

The Witness: In 1939.

In running the casing on down and landing it above this producing section, the job was to get the cement job in 12 feet between the water and the oil formation, or 20 feet, some small figure, and the practices that had been adequate before wouldn't or didn't work out, so the Union Oil Company was having to do a recement job in the West Montebello field. They turned the problem over to their field research department, and Mr. Philip Jones was head of that department. [2213] Mr. Berdine was one of his assistants. And they looked into the problem of cementing and that was the forerunner of the tests that were made down at Dominguez Hills in 1939.

Q. (By Mr. L. E. Lyon): What, if anything, did B & W have to do with these tests made by the Union Oil Company at Dominguez Hills then?

A. Well, all manufacturers of equipment that had anything to do with cementing, such as Halliburton, Baker Oil Tools, Cosco Manufacturing Company, Security Engineering, and ourselves, and there may be one or two others, furnished equipment to be tested out there, to find out whether our cementing practices could be improved.

Q. Now, how did you come to get in on that? You had no product on the market at that time, if I understand you.

(Testimony of Bruce Barkis.)

A. We, both Mr. Wright and I, had friends in the Union Oil Company. They knew that we had joined together on this work and we were told that——

Q. When were you told? When was it, in 1939?

A. Well, it was the late summer, I will say August, September, October—September is pretty close to it.

Q. Now, had you even determined on a form of tool to offer to the trade at that time?

A. We had worked—we had made quite a few scratchers, different forms. We had bored holes in collars and we had made relieved collars different than the usual form of [2214] development. And it was about that time, or before their tests were made, anyway, that we had worked out a form of scratcher similar to wall-cleaning guide—I don't know the exhibit number.

Q. Is it correct to state that the wall-cleaning guide was first experimentally tested in these experimental wells of the Union Oil Company at Dominguez Hills? A. That is so.

The Court: Is the physical specimen of that first device here?

The Witness: There is what they call replicas here. On that piece of pipe there is one of them.

The Court: That is Exhibit——

Mr. L. E. Lyon: Well, this one exhibit that I have in my hand is Exhibit IIII, but I think there is a little foundational matter I want to put in first.

(Testimony of Bruce Barkis.)

The Court: I want to be certain that the record will show what the witness is referring to.

Is that the exhibit which you are referring to?

The Witness: That general form of scratcher, that is the wall-cleaning guide. [2215]

* * *

Q. (By Mr. L. E. Lyon): You have spoken, Mr. Barkis, of some tests or determinations that were made at Dominguez Hills by the Union Oil Company. Were you present at any time during the making of those tests? A. Yes, I was.

Q. How many times were you present?

A. I can recall five or six times. It may have been more.

Q. Did you take any equipment with you to Dominguez Hills at any time?

A. I can't recall that I delivered any of the scratchers to the test location. I may have.

Q. Were you there with Mr. Wright?

A. Yes. Yes, I was.

Q. Upon more than one occasion?

A. Yes, I was.

Q. Did you observe the making of any of the tests and the test apparatus that was used?

A. Yes, I saw the test apparatus located on the tank. I saw several of the test results laid out on timbers on the ground. In fact they saved quite a few of them there for a period. I don't recall—yes, I recall seeing one of the tests conducted, one of the cementing operations conducted.

Q. When was that? [2216]

(Testimony of Bruce Barkis.)

A. In the fall of the year. I recollect November or December.

Q. Now, at the time these tests were made was the form of the wall-cleaning guide determined upon as a commercial tool?

A. The form of the scratcher is shown in the exhibit—I don't know the number.

Q. I will place this before you. I see you are looking at it. Give us the exhibit number if this is the one you were referring to, Mr. Barkis.

A. That is IIII, Exhibit IIII. The form of the scratcher as shown in Exhibit IIII had been developed.

Q. Certain scratchers were taken to this well—I mean to Dominguez Hills. Do you know how many scratchers were taken?

A. No, I do not recollect just how many were taken, that is, entirely.

Q. Now, Exhibit IIII——

Let me have Exhibit X.

I will place before you Exhibit X, Mr. Barkis, and ask you if you are familiar with this document?

A. Yes, I am.

Q. All right. Now, in the Exhibit X there are photographs; one, Figure 14; one, Figure 18; and one, Figure 26, which show three scratchers. Do you recognize those [2217] scratchers?

A. Yes, I do.

Q. What are they?

A. They are B & W wall-cleaning guides of different wire formings.

(Testimony of Bruce Barkis.)

Q. How do those scratchers differ, if at all, one from the other of those three figures, 14, 18 and 26, of Exhibit X?

Mr. Scofield: The Exhibit, your Honor, is the best evidence, of course, of the difference.

Mr. L. E. Lyon: I am not asking him how the photographs show that they differ. I am asking him about how these scratchers that this witness produced differed one from the other as exemplified—not “as exemplified,” but of the three scratchers of these three figures.

Mr. Scofield: The report itself is the best evidence.

The Court: Isn't that a matter for opinion testimony?

Mr. L. E. Lyon: No, your Honor; it is a matter of fact.

The Court: You mean he saw the three?

Mr. L. E. Lyon: Yes, he is the fellow that made them. He was there.

Mr. Scofield: That has not been testified to.

The Court: You are asking him to relate not with respect to the background itself, but with respect to his memory?

Mr. L. E. Lyon: Yes, your Honor. [2218]

Mr. Scofield: There has been no testimony so far that this witness did anything more than just saw these. He didn't manufacture them so far as the testimony shows up to now.

Mr. L. E. Lyon: I think he so testified, that they were B & W scratchers.

(Testimony of Bruce Barkis.)

Mr. Scofield: But not that he had anything to do with the manufacture of them.

The Court: If he saw them, he may relate what he perceived with his eyes. Do you understand the question, Mr. Barkis?

The Witness: I am sure I do.

The Court: You may answer it.

A. The only difference is in the end forming of the wires as they extend from the collar.

Q. By Mr. L. E. Lyon: Do you recall whether there was any other form of scratcher delivered by B & W to these tests in which the end formation of the wires differed from that shown in Figures 14, 18 and 26?

A. Yes. I recall that the first scratchers that were delivered had wires extending straight out, and that form is different than these three.

Q. All right. Now, did that scratcher differ in any other way from the scratchers shown by Figures 14, 18 and 26 of the Exhibit X—that scratcher or those scratchers? [2219]

A. Than in the end forming of the wires?

Q. Other than in the end forming of the wires.

A. No, it did not.

Q. In other words, to your knowledge, was there more than one test conducted at the Dominguez Hills determination with B & W scratchers? [2220]

* * *

A. Yes, there were more than one test. [2221]

* * *

(Testimony of Bruce Barkis.)

Q. Mr. Barkis, at the test made at Dominguez Hills, were the ends of the wires of the scratchers of B & W bent in more than one direction?

A. Yes, they differently were.

Q. In how many different directions?

A. Three different directions.

Q. What was the purpose of those determinations of bending in that manner?

A. To determine the effect of this mud removal.

Q. All right. Now, following these Jones and Berdine tests did B & W sell scratchers similar to those experimented with in the Jones and Berdine tests?

A. Sold scratchers similar to one form but not identical.

Mr. Scofield: Will you read the last part of the answer? I did not get it.

(Portion of answer read as follows: "but not identical.")

Q. (By Mr. L. E. Lyon): You have before you Exhibit III. [2222] To your knowledge does that exhibit correspond to any scratcher experimented with at the Jones and Berdine tests?

A. Yes, it does.

Q. Which one? Which test?

A. The test shown in Figure 26.

Q. In Figure 26. Now, you have testified that you sold scratchers which did not precisely correspond with any used in Jones and Berdine's tests,

(Testimony of Bruce Barkis.)

but which were closely in approximation thereto, I believe.

Can you identify in this group of scratchers any such scratcher, Mr. Barkis? You can come down here and pick it out, if you will, if there is one. If there isn't, say so.

A. This is the scratcher that I had reference to when I said it was similar but not identical.

Q. Give the exhibit number.

The Court: Exhibit number?

A. FFFF.

The Court: FFFF?

The Witness: FFFF.

Q. (By Mr. L. E. Lyon): Now, just take that with you, Mr. Barkis, and explain to us how that differs from the ones used in Jones and Berdine's experimental tests at Dominguez Hills.

A. The points of difference I would list are in the form of the outer portion of the wire. [2223]

The scratcher of Exhibit IIII has a sidewise bend and has balls formed by welding at the end of each wire.

In the wire forming of Exhibit FFFF it extends sidewise and has a turned-up section at the end of each wire.

The points of similarity are: the collars are the same, the holding clips are the same, the wires are anchored the same and extend from the collar in the same direction.

Q. Before you, in addition to this Exhibit FFFF, you have Exhibit IIII, and Exhibit IIII

(Testimony of Bruce Barkis.)

is mounted on a simulated casing, Exhibit CF. Is that mounting illustrative of anything, Mr. Barkis?

A. It is illustrative of the mounting shown in Figure 26.

The Court: Figure 26 of——

The Witness: Of Exhibit X.

Q. (By Mr. L. E. Lyon): Now, I notice with respect to Exhibit CF that there are two bands of rod spaced apart on Exhibit CF. What are those?

A. Those are means for confining the travel of the scratcher on the casing, and to permit the scratcher to slide and to rotate on the casing between those points.

* * *

The Court: Are these what you call lugs? [2224]

The Witness: This is a form of lug. It is a solid band.

The Court: Now, we are referring to what?

The Witness: To Exhibit CF, or to the rod welded around the exhibit.

The Court: It is the simulated casing there?

The Witness: No, to the rod welded around the Exhibit CF.

The Court: Yes. There are two ridges on there.

The Witness: That is correct.

The Court: The circumference, I mean, of a simulated casing.

The Witness: That is correct.

Q. (By Mr. L. E. Lyon): How does this simulated casing compare with what was actually used

(Testimony of Bruce Barkis.)

in a test conducted at Dominguez Hills and as shown by Figure 26 of Exhibit X, Mr. Barkis?

A. The Exhibit CF appears to be, without measuring, 31½-inch casing, and that is the size of the casing that was used in the Jones and Berdine tests. [2225]

* * *

Q. (By Mr. L. E. Lyon): How was the scratcher shown in Figure 26 of Exhibit X, and as it was used in the test, mounted on the connection shown in that photograph, Mr. Barkis?

Mr. Scofield: Now, the exhibit itself of course is the best evidence of that. There is a photograph of it.

Mr. L. E. Lyon: I would agree with that, except for your argument.

The Court: Objection overruled. He may answer.

Tell what you saw.

A. The scratcher was mounted between lugs as shown in the photograph, Figure 26, of Exhibit X.

Q. (By Mr. L. E. Lyon): And those lugs were constituted how, Mr. Barkis?

A. By placing the rod of mild steel around the casing and welding it on the outer edges to the casing identical with the method or form shown in Exhibit CF. [2226]

Mr. Scofield: I move that be stricken. On this witness there is no foundation laid as to the fact that this witness put these rods on, as to whether they were welded on, mild steel, or what they were.

(Testimony of Bruce Barkis.)

The Court: Isn't he a man qualified to express that opinion insofar as description is concerned? To me I would say they appear to be welded ridges. Now, he has gone one step further and he is using the terminology of the welder, I take it, of wrapping a piece of welding rod around it and fusing it to the casing.

Is that the process?

Mr. Scofield: I don't know. All I can tell is from the picture and I presume that is what he can testify, and I suppose the picture is the best evidence, your Honor.

The Court: If I had nothing more to go on, I would draw the inference that some piece of metal was wrapped around the casing and fused to it by a welding process of some kind.

Mr. Scofield: If he will give his answer as an inference from that drawing, I will withdraw the objection.

The Court: And that would form what I would call a ridge and what someone here called a lug.

Q. (By Mr. L. E. Lyon): Mr. Barkis, was there any significance in the manner in which these rods were welded to the casing with the welded rod as illustrated by Exhibit CX, [2227] always welded from the outside of the rods away from the scratcher?

The Court: What is in issue here now seems to be whether or not it is in evidence that a piece of welding rod is the metal that was used on the casing.

Mr. L. E. Lyon: And the witness has so testified.

(Testimony of Bruce Barkis.)

The Court: Have you so stated?

The Witness: Yes.

The Court: Did you see it done?

The Witness: I don't recall that I saw the rod welded on the casing. I have recollection of seeing the test apparatus before it was run.

The Court: And you saw some metal that appeared to have been welded to the casing, is that it?

The Witness: Yes, sir, I believe so.

The Court: In the form which you describe here as a lug?

The Witness: Yes, sir. Not only that, but this is the usual form of oil-field practice, of welding a rod to casing of that form.

The Court: For what purpose?

The Witness: Oh, for the purpose of holding any scratcher in position on the casing.

The Court: Well, at the time of this test, was there a practice of welding a welding rod to a casing for any [2228] purpose?

The Witness: I can't think of any practice usually, I can't think of any practice right at this moment.

The Court: Is there any issue as to it at all?

Mr. Scofield: There certainly is an issue as to whether or not this was welding rod. I don't think there is any indication in this record or even in the Exhibit X that this was a welding rod that was wrapped around there. That is, it was a rod of some sort, from the picture, evidently.

The Court: Some piece of metal.

(Testimony of Bruce Barkis.)

Mr. Scofield: That is it.

The Court: Does it matter whether it was welding rod or some other rod?

Mr. L. E. Lyon: Your Honor, insofar as concerning the testimony of Mr. Barkis, it is in evidence and he testified that it was welding rod and it was welded to it, and his testimony is in evidence.

The Court: Isn't this much ado about nothing?

Mr. Scofield: I think it is much ado about nothing.

The Court: Let us drop it then. Proceed.

Q. (By Mr. L. E. Lyon): There is only one question I have, and that is, was there any significance in the welded material being placed always at the top or at the bottom of the welding rod and not within the confined space of the two [2229] rings or lugs? A. Yes, there was a reason.

Q. What was that significance?

A. To permit free travel of the scratcher between the confining rings.

The Court: To prevent it from becoming wedged against the metal inside?

The Witness: From binding.

The Court: From binding, is that right?

The Witness: Yes, sir.

Mr. Scofield: We will stipulate to that.

The Court: Very well.

Mr. L. E. Lyon: I will accept the stipulation.

Q. Now, Mr. Barkis, were the scratchers that were used in these tests freely rotatably mounted upon the casings of the tests?

(Testimony of Bruce Barkis.)

A. Yes, they were.

The Court: As exemplified by the physical exhibits——

Mr. L. E. Lyon: CF and IIII.

The Court: Is that correct?

The Witness: That is correct.

Q. (By Mr. L. E. Lyon): Now, Mr. Barkis, I will hand you two photographs which are in evidence as Defendants' Exhibits AC-1 and AC-2, and will ask you if you are familiar with the structures shown in these photographs. [2230]

A. Yes, I am.

Q. What do these photographs show?

A. They represent the mounting of the Jones test apparatus alongside a tank at Dominguez Hills.

Q. And I notice on the top of one of these tanks in Exhibit AC-1 there is a man standing, pulling on a rope. What is he doing?

A. He is raising and lowering the 3½-inch casing inside the outer test cylinder.

Q. That is, he is raising and lowering the casing of which Exhibit CF is intended to simulate a part, is that correct? A. That is correct.

Q. Now, you have testified that you sold scratchers of the form of Exhibit FFFF. To whom did you sell such scratchers?

A. We sold scratchers of this form to Thomas Kelly & Son, at Rosecrans Field.

Q. When? A. In December of 1939.

Q. And how many of such scratchers were sold?

A. My recollection is that there were over

(Testimony of Bruce Barkis.)

twenty. Twenty-three, I believe, is the correct figure.

Mr. L. E. Lyon: I will ask the clerk if he can give me Exhibits HHHH and JJJJ. [2231]

Q. I place before you a photostat of a document heretofore received in evidence as Exhibit HHHH and will ask you if you can identify that document, and if so, will you tell me what it is?

A. That is an invoice of B & W, Inc., to the Union Oil Company of California.

Mr. L. E. Lyon: This is the wrong one. This is not HHHH. Pardon me. Just strike that.

There is an error here somewhere. What has happened to this list? This is not the correct one for HHHH.

Pardon me, your Honor. The list and the exhibits do not match here. It is taken from their list.

Now, let me see our own list. See if you can find the right one.

In the meantime, let me see Exhibit SSSS while you are at it.

Q. I place before you, Mr. Barkis, a photostatic document heretofore received in evidence as Exhibit JJJJ. Can you identify that document? If so, will you do so?

A. It is a check from Thomas Kelly & Son, dated February 5, 1940, for \$174.13, made out to B & W, Inc.

Q. Was that check received by B & W?

A. Yes. It was.

(Testimony of Bruce Barkis.)

Q. That check is endorsed on the back. Who is it endorsed by? [2232]

A. It is endorsed "B & W, Inc., by K. A. Wright."

Q. You recognize that signature, do you?

A. Yes, I do.

Q. Was that check deposited to the account of B & W? A. It was.

Q. And was that check received by B & W in payment for any particular device or devices, service or services?

A. It was in payment for the scratchers that we used at the Thomas Kelly & Son well in the Rosecrans Field.

Q. Now, you have testified that a certain scratcher, exemplified by Exhibit FFFF, was sold to Thomas Kelly & Son. When was that sale made?

A. The job was made right at New Year's, December 30-31 of '39, which is when the sale was made.

Q. When were the scratchers delivered to the job, do you know?

A. The scratchers were delivered on the day the casing started in the well, which was December 30, 1939. [2233]

Q. Did you have anything to do with or were you present with or were you present when the scratchers were delivered to the well?

A. Yes, I was.

Q. Was anyone else with you connected with B & W?

(Testimony of Bruce Barkis.)

A. Mr. Wright and I went to the well, my present recollection is, and went in different cars. I just don't recall whether the scratchers were in his car or in mine, but we both went to the well for the purpose of installing the scratchers and assisting in the cementing of the casing.

Q. Did you and Mr. Wright—and, as I understand it, it was on December 30, 1939—do anything with reference to installing these scratchers on the casing?

A. Yes, we did.

Q. What did you do?

A. We were told about where to put the scratchers on. We raised the joints of casing on blocks and slid the scratchers on the casing and helped in the general installation of the equipment.

Q. How were the scratchers mounted on the casing?

A. The scratchers were—the protectors were taken off the joints of casing, the scratchers were slid onto the casing. After they were positioned, welded lugs were put above and below each scratcher, restricting its travel.

Q. Were the scratchers secured to the casing in any [2234] way?

A. Yes. They were held between these lugs so that they could only travel the distance between the lugs, as similar to the scratcher mounting here on CF, Exhibit CF.

Q. Were or were not the scratchers free to rotate on the casing?

A. Yes, they were. They could slide between the

(Testimony of Bruce Barkis.)

lugs and the scratchers could turn on the casing, rotate on the casing between the lugs.

Q. Did B & W publish at any time any instruction sheet with reference to the mounting of the scratchers on the casing? A. Yes, we did.

Q. I hand you a document heretofore received in evidence, or marked in evidence as Defendants' Exhibit HH for identification, and will ask you if you can identify that document?

A. Yes, I can. It is what we called our "Instructions for Installation of B & W Wall-Cleaning Guides."

Q. Does or does not this Exhibit HH for identification illustrate the manner in which the scratchers were mounted on the casing in the Kelly job on December 30th of 1939? A. Yes.

Mr. Scofield: That is objected to as calling for conclusion, your Honor.

Mr. L. E. Lyon: It does not call for a conclusion. The [2235] witness has testified that he was there and put them on.

The Court: Is this a description?

Mr. L. E. Lyon: That is right.

Mr. Scofield: But not of the Kelly well, your Honor.

Mr. L. E. Lyon: The question was: Does this Exhibit HH illustrate the manner in which the scratchers were mounted on the casing at the Kelly well on December 30, 1939?

The Court: By illustrate, I take it you mean fairly describe?

(Testimony of Bruce Barkis.)

Mr. L. E. Lyon: Illustrate and fairly describe.

The Court: Is there any reason why he should not be able to answer that? The document, as I understand it, was published by his company. Is that correct?

The Witness: Yes, that is correct.

The Court: If there is anything unfair about it, I would like to hear from you, Mr. Scofield. It just saves his repeating it. I take it he can refer to it. I suppose he wrote it. I don't know. He may have written it.

Q. (By Mr. L. E. Lyon): Mr. Barkis, you did write Exhibit HH, didn't you?

A. Yes, I did.

The Court: If he could read it, he could say this says it better than I could say it. We all have that experience, don't we, when we sit down and write out something carefully in the way of description it is better than extemporaneously. [2236]

Mr. Scofield: If he will commit himself to that stand, I will withdraw the objection.

The Court: Very well. Does it fairly describe?

The Witness: It fairly describes the installation.

Q. (By Mr. L. E. Lyon): Now, Mr. Barkis, you have just testified that you wrote Exhibit HH. When was HH published by B & W, Inc., if it was?

Mr. Scofield: We will stipulate that.

The Court: What is the stipulation?

Mr. L. E. Lyon: What is the stipulation?

Mr. Scofield: That it was published by B & W.

Mr. L. E. Lyon: Well, when, is the question.

The Court: The date?

(Testimony of Bruce Barkis.)

Mr. Scofield: Oh, there isn't any date on it.

Mr. L. E. Lyon: Well, that was the question that I asked the witness.

Mr. Scofield: I thought he asked him if they published it.

The Court: You may answer the question.

A. Early in 1940. My recollection is that it was completed in February of 1940.

Q. (By Mr. L. E. Lyon): And published at that time? A. Yes, it was.

Q. And how was it published?

A. It was what I would call a black-line print on white [2237] paper just identical with this here.

Q. How was it distributed, if at all?

A. Oh, just handed out and a few mailed out.

Q. Was it used in any installations?

A. Yes, it was used generally, for the Wright scratcher was a new piece of equipment and the Exhibit HH was generally used for instruction to people how to mount the scratcher on the casing.

The Court: Was it established when Exhibit CR, the bulletin 101, was published?

Mr. L. E. Lyon: Yes, your Honor. It was stipulated that that was published before March 19 of 1940.

The Court: But it was not stipulated whether it was published——

Mr. L. E. Lyon: As to HH, it is not stipulated as to HH.

The Court: As to whether it was prior to the publication of Exhibit HH in February of 1940?

(Testimony of Bruce Barkis.)

Q. (By Mr. L. E. Lyon): Which was published first, Exhibit HH, or your Bulletin 101, Exhibit CR?

A. This was published first and released. It is my recollection that some——

Q. By “this” you mean Exhibit what?

A. Exhibit HH.

Q. Was the first released? [2238]

A. It was.

Q. All right. And then it was released before Exhibit CR, the Bulletin 101? A. That is correct.

Mr. L. E. Lyon: All right. I will offer Exhibit HH in evidence at this time, the document heretofore identified as HH for identification in evidence at this time as Exhibit HH.

The Court: Is there objection?

Mr. Scofield: No objection.

The Court: Received in evidence.

(The document referred to, and marked Defendants’ Exhibit HH, was received in evidence.)

Q. (By Mr. L. E. Lyon): Now, Mr. Barkis, you testified that you were present on December 30th when these scratchers were mounted on the Kelly well, and you have testified as to the mounting of the scratchers on the casing. Were you present when the casing was lowered in the well with the scratchers on it?

A. Yes, I was. The scratchers were mounted on

(Testimony of Bruce Barkis.)

the first several joints of casing, and it is my recollection that after, oh, 20 or 30 joints of casing were run into the well, that I left the well and that Mr. Wright stayed there.

Q. When the 20 or 30 joints of casing were run into the well were all of the scratchers run into the well? [2239]

A. They were below the rotary table.

Q. Now, did you return to the well?

A. Yes, I did.

Q. When? A. The next morning.

Q. Was Mr. Wright still there?

A. He was still there.

Q. What operation was being performed at that time?

A. They were in process of running the casing.

Q. That is, they were still running in more casing? A. Still running casing and circulating.

Q. By running casing what do you mean?

A. Well, a joint of casing, the top joint of casing is lowered until the elevators are just below the rotary table, slips are set around the joint of casing, the top joint.

Q. Briefly, do you mean they were adding sections of casing? A. Adding sections of casing.

Q. All right. Now, you said they were circulating. What do you mean by circulating? Does that mean that they were running the rotary mud into the well, pumping it into the well? [2240]

(Testimony of Bruce Barkis.)

A. It is my recollection they would run 10 joints of casing, put on a circulating head on top, connect up the hose and circulate mud down through the casing, up through the annulus. That was circulating the casing.

Q. How far, to your knowledge, did they lower this casing and these scratchers into the well, do you know?

A. The well had been drilling down through the producing section. Several hundred feet above the hole had been reamed to a certain size which was the cementing depth of casing, and the casing was run down very close to that depth, within a few feet, and that is where the casing was cemented.

Q. Were you there when they completed the running of the casing into the well?

A. Yes, I was.

Q. After they completed the running of the casing into the well what was done? [2241]

* * *

A. The circulating or cementing head was put on the top joint of casing, mud-fluid was circulated. After a certain length of time, went ahead with the cementing operations, cement slurry was mixed and pumped to bottom and the well was cemented, the casing was cemented in the well.

Q. In the ordinary manner?

A. In the ordinary manner.

Q. As far as you know was that casing ever removed from that well?

(Testimony of Bruce Barkis.)

A. No, it was cemented in solid. [2242]

Q. Therefore the 23 scratchers are where?

A. They are still in the casing on the bottom sections of the casing in the well.

Q. I place before you a document, which I find has not heretofore been identified, which is Exhibit U in the public use proceedings, in which is supposed to be Exhibit HHHH. Erroneously, the invoice to the Union Oil Company was marked HHHH.

The Clerk: Thomas Kelly.

Mr. L. E. Lyon: Well, this is Thomas Kelly, the one that I am placing before you now. I think you had better put the HHHH on the right one to correspond with that list, not on the wrong exhibit. Both lists say that HHHH is the invoice to Thomas Kelly Company. The HHHH identification is placed on a copy of an invoice to the Union Oil Company.

The Court: What should the invoice to the Union Oil Company be marked?

Mr. L. E. Lyon: I think that is already marked a letter exhibit. Which one is that?

The Court: Is it agreed that the marking may be changed?

Mr. Scofield: Yes, sir. I agree that the HHHH, the invoice of the Thomas Kelly B & W scratchers dated January 24, 1940, shall be marked as HHHH.

Mr. L. E. Lyon: And that is in evidence, I believe. As indicated by your list, it is in evidence, isn't it? [2243]

(Testimony of Bruce Barkis.)

The Court: It was received in evidence on November 25th.

Mr. Scofield: On November 25th, according to my markings.

The Court: Very well.

Q. (By Mr. L. E. Lyon): I have placed before you a photostatic copy of a document heretofore marked Exhibit HHHH and will ask you if you can identify that document, Mr. Barkis?

A. Yes, I can. It is an invoice of B & W, Inc., to Thomas Kelly & Sons dated January 24, 1940.

Q. For what equipment, if any?

A. For 23 wall-cleaning guides for $6\frac{5}{8}$; A.P.I. casing.

Q. And you have testified with respect to this Thomas Kelly & Sons job on which you were present. Does this invoice have any relation to that job?

A. Yes, this is the equipment that was used on that job and was covered by the check, the payment of this invoice is covered by the check that I have already testified to.

Q. The difference between the amount of the invoice and the amount of the check, do you have any explanation for that or know of any explanation for that?

A. Well, there was a two per cent cash discount here shown on the items on this invoice.

Q. There was a two per cent cash discount taken from [2244] the sum of this invoice in the sum of the check, is that correct?

(Testimony of Bruce Barkis.)

A. Yes. That would amount to \$3.50 or a little more. [2245]

* * *

Q. (By Mr. L. E. Lyon): * * * Following this Kelly well, Mr. Barkis, were sales of scratchers made to anyone else, your Honor, by B & W?

A. Yes. I recall early sales to the Union Oil Company.

Q. And do you recall what wells those scratchers were used on, or where the wells were located?

A. The wells were located in the Rosecrans field and in the Dominguez Field.

Q. I place before you a document heretofore marked in evidence as Exhibit SSSS and maybe I had better have the original because of this error that happened before. I will ask if you can identify that particular document, Mr. Barkis?

A. Exhibit SSSS is an invoice of B & W, Inc., to the Union Oil Company of California dated March 4, 1940.

Q. For what type of equipment? [2246]

A. For two wall-cleaning guides for seven-inch A.P.I. casing.

Q. Do you recall the form of wall-cleaning guides sold on that invoice?

A. It is my recollection that it is the form of scratcher shown in Bulletin No. 101.

Q. Is there a scratcher of that form in evidence here, Mr. Barkis? If so, will you look at the scratchers here in a box and see if you can identify

(Testimony of Bruce Barkis.)

a replica of the scratchers that were sold on the invoice Exhibit SSSS.

A. The scratchers of that invoice Exhibit SSSS were of the type shown in Exhibit 104.

Q. I hand to you and ask you to look at Exhibit TTTT in evidence, which is also in the book, and will you tell me if you can identify that exhibit and tell me what it is for?

A. That is a purchase order of the Union Oil Company of California, No. 9602, dated March 1st, 1940, for two seven-inch B & W wall-cleaning guides that were invoiced in Exhibit TTTT.

Q. Now, I will hand you and ask you to refer to Exhibits RRRR and QQQQ also in that same book and ask you if you can identify those two documents and tell me what those are? They are in the same book, aren't they?

A. What numbers?

Q. QQQQ and RRRR. [2247]

A. Exhibit QQQQ is a check voucher from the National Supply Company.

Q. Dated what date?

A. With the memorandum date, March 10th, covering the invoice of February 24th, 1940, for \$27.

Q. Now, there is a certain handwriting on this particular document Exhibit QQQQ. Whose handwriting is that?

A. That is my handwriting.

Q. When was that handwriting placed on there?

A. It was placed on there at the time the check was received.

(Testimony of Bruce Barkis.)

Q. Was this invoice for one of the very first sales of B & W wall-cleaning guides?

A. Yes. It was.

Q. Do subsequent invoices for wall-cleaning guides carry your own handwriting on them, or documents with reference to them carry your own handwriting on them?

A. Quite often I might make a memorandum.

Q. Even today? A. Even today.

Q. Now, you have stated that this is a voucher of a check. What did you mean by that?

A. It carries the notation "Voucher No. 25,-829" and the statement, "Our check is tendered herewith in payment of your account as follows," and it shows that the check [2248] was received and entry made.

Q. Well, did you detach this voucher off from the check?

A. Yes. It is my recollection that it was attached to the check.

Q. What did you do with the check?

A. It was deposited.

Q. In the bank? A. Yes, it was.

Q. Now, what is the document, Exhibit RRRR, Mr. Barkis?

A. Exhibit RRRR is a similar check voucher but it is from the Union Oil Company, covering material invoiced to Union Oil Company on March 4, 1940, purchase order No. 9,602, which is the same transaction that I have already testified to.

Q. For the Union Oil Company?

(Testimony of Bruce Barkis.)

A. Yes, for the Union Oil Company.

Q. And this is the check voucher off the check in payment of the two scratchers, then, that is shown on invoice number, exhibit what?

A. Exhibit SSSS.

Q. Now, I notice on Exhibit QQQQ a notation placed on there under the words "Not Negotiable" of "Rosencrans 38, Dominguez 75, Both N.S." something. What does that mean? [2249]

A. That isn't the correct reading. It is "Rosecrans 38 Dominguez 75," or "76," "Both W.S.O." That refers to water shut-off, both water shut-off.

Q. And what do the "Rosecrans 38" and "Dominguez 75" mean?

A. It would refer to the wells on which this equipment covered by this check voucher would have been used.

Q. I will ask you to refer to two other documents, Mr. Barkis, Exhibits XXXX and YYYY, and explain to me what those documents are?

A. Exhibit XXXX—

Mr. Scofield: That has been withdrawn, your Honor.

Mr. L. E. Lyon: Wait a minute. Exhibit YYYY has been withdrawn. That is what I am trying to check here.

Mr. Scofield: Exhibit YYYY has been withdrawn.

Mr. L. E. Lyon: XXXX has not been withdrawn.

(Testimony of Bruce Barkis.)

The Court: According to my notes it has been withdrawn.

Mr. Scofield: Yes, sir, but XXXX and YYYY.

Mr. L. E. Lyon: Let me ask one question.

The Court: If there is any doubt about it, ask the clerk.

Mr. L. E. Lyon: Let me ask the witness one question:

Q. Does it refer to the work done on Bulletin 101, Mr. Barkis?

Mr. Scofield: I object to that. If the exhibit is [2250] withdrawn, I don't see why he should testify.

Mr. L. E. Lyon: Well, I am trying to straighten out my record.

The Court: Overruled. You may answer.

A. Yes, it does.

Mr. L. E. Lyon: It is withdrawn, then. All right.

Q. I hand to you Exhibits A, AF and AG for identification. I believe they are in that book, Mr. Barkis, or are they?

The Clerk: They are here, Mr. Lyon. This is it.

The Court: According to my notes, Exhibit AE has been withdrawn.

Mr. Scofield: Yes, Exhibit AE is withdrawn.

Mr. L. E. Lyon: Exhibit AE is withdrawn.

At this time, your Honor, in view of the fact that the deposition of A. L. Siegel has been received in evidence, I will offer in evidence——

The Court: As what exhibit?

(Testimony of Bruce Barkis.)

Mr. L. E. Lyon: It is received in evidence as Defendants' Exhibit BZ-10.

The Court: The deposition of A. L. Siegel?

Mr. L. E. Lyon: Yes.

The Court: S-i-e-g-e-l.

Mr. L. E. Lyon: I will offer in evidence Exhibits AF and AG as they are identified in that deposition, as exhibits [2251] to the deposition QQ and RR, respectively, that is, their identifications in the Siegel deposition, not here.

The Court: Is there objection to the offer?

Mr. Scofield: No objection to the offer—

The Court: They are received in evidence.

Mr. Scofield: Unless it is going to mess up our exhibits. There are Exhibits QQ and RR in.

Mr. L. E. Lyon: They are not offered as those. They are offered as the numbers that were given here, AF and AG, I believe.

Mr. Scofield: That is all right. I have no objection.

The Court: All right. Exhibits AF and AG for identification are now received in evidence.

(The documents referred to, and marked Defendants' Exhibits AF and AG, were received in evidence.)

Q. (By Mr. L. E. Lyon): I hand you two documents heretofore marked for identification as Exhibits WWW and UUU. I will ask you if you can identify those and if so tell me what they relate to, if anything.

(Testimony of Bruce Barkis.)

The Court: According to my notes, the UUUU exhibit has been withdrawn and not the WWWW exhibit.

Mr. L. E. Lyon: These lists that I get certainly are not right.

The Court: According to my notes, Exhibit UUUU is invoice of Hal G. Davis Co., for wall-cleaning guide Bulletin [2252] artwork.

Mr. L. E. Lyon: That is withdrawn. If it is on wall-cleaning guide bulletin artwork, it is withdrawn. That wall-cleaning guide bulletin artwork date has been stipulated to.

The Court: Exhibit WWWW is invoice of Homer R. Dulin, apparently. It refers to work done under a work order which is Exhibit OOOO.

Mr. L. E. Lyon: Yes, OOOO. I want Exhibit OOOO, also, if I may have it. [2253]

The Court: And Exhibit PPPP is apparently a photostat of check in payment for that work.

Q. (By Mr. L. E. Lyon): Taking Exhibits OOOO, PPPP, and WWWW, together, can you identify the documents, Mr. Barkis?

A. Yes, I can.

Q. What are they, taking them in order?

A. Exhibit OOOO is a work order of the Homer R. Dulin Company dated January 10, 1940, and that refers to the preparation of the drawings for the instruction for installation sheet.

Q. Exhibit what?

A. Exhibit HH is my recollection.

Mr. R. F. Lyon: That is right.

(Testimony of Bruce Barkis.)

Mr. L. E. Lyon: Let's see, now.

Q. Have you Exhibit HH in front of you there? If not, let us put it in front of you. Is that among your papers up there, Mr. Barkis? It is in your deposition, I believe. Exhibit HH, the small instruction sheet.

The Court: Exhibit HH is the sheet the witness referred to.

Mr. L. E. Lyon: The small instruction sheet, yes.

The Court: He referred to a sheet a few moments ago that he himself composed. [2254]

Q. (By Mr. L. E. Lyon): That is the instruction sheet that you testified that you composed, yourself, Mr. Barkis?

A. Yes, that is correct.

Q. All right. Now, that is Exhibit HH. Now go ahead. You say that Exhibit OOOO was for artwork for that bulletin, is that right?

A. For that sheet, not bulletin.

Q. Yes. A. For that installation sheet.

The Court: Exhibit HH?

The Witness: Exhibit HH.

Q. (By Mr. L. E. Lyon): And that document, Exhibit OOOO, was received by whom and when?

A. This is the work order of the Homer R. Dulin Company.

Q. Directed to whom, or addressed to whom?

A. Well, it is their own office work order for work to be done for B & W, Inc.

(Testimony of Bruce Barkis.)

Q. I see. Now, who ordered that work done?

A. I ordered the work done.

Q. All right. Now proceed to the next document.

Mr. Scofield: What is the exhibit?

Mr. L. E. Lyon: PPPP, I believe.

Mr. R. F. Lyon: PPPP.

Q. (By Mr. L. E. Lyon): PPPP. [2255]

A. The invoice comes first before the payment of the invoice.

Q. All right.

A. And I would refer to Exhibit WWWW as being the statement of Homer R. Dulin Company.

Q. Dated what date?

A. This is the statement of February 29th for \$24.95.

The Court: What year?

The Witness: That would be 1940, shown at the top.

Q. (By Mr. L. E. Lyon): To whom was that invoiced? A. To B & W, Inc., Long Beach.

Q. All right. Now, on the face of that invoice there are certain—all right.

Now, what is Exhibit PPPP?

A. Exhibit PPPP shows that the statement of the Dulin Company was paid by B & W check signed by Mr. Wright and myself, dated March 7, 1940, for \$24.95, which would be payment for the work done on the original job order.

Q. And what relation, if any, does this check then have to the date of completion of Exhibit HH that you have testified that you prepared yourself?

(Testimony of Bruce Barkis.)

A. Well, the work order is dated January 10, 1940, and indicates to me that the work was completed prior to February 29th, as I testified, during the month of February, 1940. [2256]

Q. Well, was the work delivered to B & W before it was paid for?

A. Yes, it was. [2257]

* * *

Q. (By Mr. Lyon): Mr. Barkis, has B & W had any sales policy with respect to the sale of its equipment? A. Yes, it has.

Q. What has been that sales policy?

A. The sales policy is to distribute equipment to oil companies or suppliers on an established basis. Most of the equipment is sold through supply companies; some equipment is sold to oil company purchasers.

Q. Has that policy had anything to do with the manner of sale of the equipment itself? Upon what basis is the equipment sold in accordance with that policy?

A. Well, the equipment sometimes is delivered to a supply company who in turn delivers the equipment to the ultimate user. Other times the equipment is delivered to the well on the request of the oil company and the equipment is installed and field service provided. Other times equipment is sold to supply companies for their maintenance of field stocks.

Q. What has been the company's sales [2260] policy with respect to patents and patented items?

(Testimony of Bruce Barkis.)

A. The proposition of patents, or, I will put it this way: To try to sell equipment on patents is poor sales practice. We had patents but the equipment was not sold on that basis, definitely.

Q. Is that part of your sales policy?

A. It was our established policy.

Q. In accordance with that policy did you go to an oil company and tell them you had equipment and it was patented, and, therefore, you wanted them to buy it? A. Definitely not.

Q. Did you mention the patents?

A. Yes. There were periods when there were inquiries as to whether we owned patents, and in answer to the inquiries we told them we did own patents.

Q. Did you make any reference to patents to customers where they did not make inquiry with reference to patents? A. No, we did not.

Mr. Seofield: What was the answer, please?

(Answer read by the reporter.)

Q. (By Mr. L. E. Lyon): Has that been your established policy since the formation of B & W, Inc.? A. Yes, it has.

Q. And is that still your policy today?

A. It still is. [2261]

Q. Now, Mr. Barkis, you heard Mr. Hall's testimony, I believe, with respect to the sale of some centralizers to the Gulf Oil Company. I am going to refer you to Volume 12 of the transcript of the record in this case, pages 1362 and continuing on

(Testimony of Bruce Barkis.)

through page 1368. I want you to be sure that you have fully that testimony in mind. And in connection with that testimony there was offered in evidence Exhibits 186 to 192, inclusive, which exhibits I will place before you at this time.

A. I believe I am familiar with Mr. Hall's testimony.

Q. With that testimony; all right. There are two exhibits over here, 188 and 190, both of which state, "The latch-on centralizers" on their face. I am placing those in your hands and will ask you if those are true exemplars of the tags used by B & W?

A. Yes; these were the marking tags that were placed on our centralizers at that time.

Q. Were any other tags used on centralizers at that time? A. No. No, there were not.

Q. Did you ever have a tag which stated that the centralizer was a spiral centralizer?

A. Not to my recollection we ever had a tag with "spiral centralizer" on it.

Q. Did you ever have a tag which stated that the [2262] centralizer was a straight-bow centralizer at that time?

A. Not at that time. We do have now.

Q. Was the same tag used upon both the straight and spiral centralizers at the time of this transaction with the Gulf Oil Company?

A. Yes. Yes, they were.

Q. Without regard to whether it was a straight or spiral centralizer, is that correct?

A. Yes, that is correct.

(Testimony of Bruce Barkis.)

Q. All right. Is there anything on any of these exhibits, 187, 189, 191, or 186, or any other item of these exhibits, including Exhibit 192, the photograph, that would indicate whether or not the centralizers sold were straight or spiral centralizers?

A. The Exhibits 187, 189, 191 are shipping tags and show no indication that the centralizer was a spiral centralizer.

Q. Did any of your shipping tags at any time show a difference between spiral and straight-bow centralizers? And by "any time," I mean at this time. Did you ever have a shipping tag that showed a difference?

A. No, they did not. Exhibit 186 is identification tag of Nu-Coil scratchers for placement on the crate holding the scratchers. [2263]

The Exhibit No. 192 is a photograph and it does show a picture of the spiral centralizer of the B & W.

Q. (By Mr. L. E. Lyon): Now, do the records of the B & W show the sale to the Gulf Company that has been referred to in this testimony, and by that I mean the sale of centralizers which were sold to the Gulf Oil Company, Goldsmith lease, in Texas, in about August of 1950? A. Yes, they do.

Q. Was that sale made through a supply company?

A. No. At that time our sales were being made directly to Gulf Refining Company or Gulf Oil Company, I don't recall which.

(Testimony of Bruce Barkis.)

Q. And do you have the sales records of the centralizers which were sold to the Goldsmith lease in August or September of 1950?

A. Yes, we do.

Mr. L. E. Lyon: I have shown these invoices to counsel for plaintiff and I will ask that they be marked at this time as defendants' exhibits next in order. What is the next number?

The Clerk: DP.

Mr. L. E. Lyon: To be marked Defendants' Exhibits DP-1, DP-2, DP-3, and DP-4 for identification.

The Court: They may be so marked.

(The documents referred to were marked Defendants' Exhibits DP-1, DP-2, DP-3, and DP-4, respectively, for identification.) [2264]

Q. (By Mr. L. E. Lyon): Were the particular centralizers which were sold to the Gulf Oil Corporation for use at the Goldsmith lease sold to them on invoices calling for spiral centralizers?

A. Yes. They were.

Q. I place before you documents which have been marked Defendants' Exhibits DP-1, DP-2, DP-3 and DP-4 and I will ask you if you can recognize those documents?

A. Yes, I can.

Q. What are they?

A. They are copies of the original invoices to Gulf Oil Corporation.

Q. What acquaintance do you have with the invoices of B & W, Mr. Barkis?

(Testimony of Bruce Barkis.)

A. I am entirely familiar with them.

Q. Well, do you follow them closely?

A. Yes, I do.

Q. Daily?

A. I won't say daily, but several times during the month I have occasion to review them and check them.

Q. You review all invoices? A. Yes, I do.

Q. How long has that practice been common?

A. I would say since the corporation was started, that is, in the area that I am in, which is Houston. I am [2265] not entirely familiar with the detail of the California invoices, but I am with the Houston invoices.

Q. Are these invoices out of the Houston office?

A. Yes, they are.

Q. Exhibits DP-1 to DP-4?

A. Yes, they are.

Q. Now, just explain to me what the invoice, Exhibit DP-1, is for and to whom it was sold and what it calls for.

A. Exhibit DP-1 is Invoice No. 7672-H. It is dated September 26, 1950, and is to the Gulf Oil Corporation at Fort Worth, Texas, and covers equipment delivered to them on their Order No. A-98589, for their Well No. Goldsmith No. 96. I might question that number. I think there may be a clerical error in there. In my opinion it should be 596, because I am familiar with the numbers of the wells that are drilling or were being drilled at that time.

(Testimony of Bruce Barkis.)

Q. Go ahead.

A. The terms show "Net." The invoice covers four B & W Latch-on Centralizers, 7-inch spiral bow, at \$32.00, a total of \$128.00, and 18 B & W Nu Coil scratchers for 7-inch API casing, at \$6.25, for a total of \$112.50. It shows a total of \$250.50, less 15 per cent discount, leaving a net total of \$204.42. There is a notation on the bottom, "Delivered to you Goldsmith, Texas," August 31, 1950. "Our delivery ticket No. 3991." [2266]

Q. What does that mean?

A. It means that the equipment was delivered to the well location in Goldsmith by us and was covered by that delivery ticket.

Q. All right. Now, will you similarly tell me what Exhibit DP-2 is, for identification?

A. It is a similar invoice, dated August 25, 1950, for equipment delivered to Goldsmith Well No. 587-56, covering 18 B & W Nu Coil scratchers for 7-inch API casing, at \$6.25, for a total of \$112.50, and four B & W Latch-on Centralizers, 7-inch spiral bow, at \$32.00, \$128.00, net total \$204.42.

Q. On Exhibit DP-2 there is a note on the bottom of that. Will you read that note and tell me what that means?

A. It says, "Delivered to you, Goldsmith, Texas," July 28, 1950, "our Delivery Ticket 4196," and there is the same explanation as the one given for delivery regarding the notation above.

Q. Now, will you similarly turn to Exhibit DP-3

(Testimony of Bruce Barkis.)

and tell me what Exhibit DP-3 for identification covers?

A. It is an invoice, No. 7433-H, dated August 25, 1950, for Well No. Goldsmith 590-56, covering 18 B & W Nu-Coil scratchers for 7-inch API casing, at \$6.25, for a total of \$112.50, and four B & W Latch-on Centralizers, 7-inch spiral bow, at \$32.00, \$128.00, a net total of \$204.42, [2267] and the delivery notation on the bottom is, "Delivered by A. J. Flowers," who was our serviceman in that area at that time, on "7-28-50, our Delivery Ticket No. 4197."

Q. All right. Now, similarly, will you tell me what is covered by Exhibit DP-4 for identification?

A. An invoice of August 17, 1950, Invoice No. 7389-H for Well No. C. A. Goldsmith, et al., No. 589-56, for 18 B & W Nu Coil scratchers for 7-inch API casing, at the same amount, and four B & W Latch-on Centralizers, 7-inch spiral, at \$32.00, with the same amount and the same net total of \$204.42, and the delivery notation, "Delivered and Installed by Earl Stanger," who had also been located in the west Texas area, "at Goldsmith, Texas," on August 5, 1950, "Our Delivery Ticket No. 3979."

Mr. L. E. Lyon: I will offer in evidence the four documents heretofore marked for identification as Defendants' Exhibits DP-1, DP-2, DP-3 and DP-4, and I will describe those four exhibits as being invoices to the Gulf Oil Corporation for spiral centralizers and Nu-Coil scratchers delivered

(Testimony of Bruce Barkis.)

to the Goldsmith lease of the Gulf Oil Corporation in July and August of 1950.

Mr. Scofield: May I see Exhibit DP-1, please?

Mr. L. E. Lyon: You can see them all.

Mr. Scofield: May I ask Mr. Barkis if this Exhibit DP-1 indicates the well that the equipment was sent to? [2268]

Mr. L. E. Lyon: He has already so testified.

The Court: Is it so stipulated?

Mr. L. E. Lyon: Yes. He has testified that in his opinion it went to Well No. 596 of the Goldsmith lease.

Mr. Scofield: Is that your testimony?

The Witness: Yes, it was, but I notice in this record here that——

The Court: Which record?

The Witness: The transcript of the proceedings of November 23rd, that the reporter had designated "Well 598." I didn't read it thoroughly. I didn't have time to read the record thoroughly, but there is reference in here to "598."

Mr. Scofield: That is my objection, your Honor.

The Court: What is the correct number?

The Witness: My recollection is that Mr. Hall testified to Well No. 596.

Mr. Scofield: Exhibit 192, your Honor, has to do with the Gulf Oil Corporation's well, Goldsmith lease, of No. 598. Now, none of these invoices have to do with that particular well.

The Court: Was there a well No. 596?

Mr. Scofield: 598, your Honor.

(Testimony of Bruce Barkis.)

The Court: Was there a 596?

Mr. Scofield: That I do not know.

The Court: What is the point? [2269]

Mr. Scofield: My point is that what they are offering here are invoices of equipment that was sent to wells of the Gulf Oil Corporation, but they have not produced any invoice of equipment that was sent to the well that Mr. Hall testified about and from which he——

The Court: That is a matter of argument. Do you object to the offer?

Mr. Scofield: I object to the offer, yes, sir.

The Court: Upon what ground?

Mr. Scofield: Upon the ground that the invoices do not cover the equipment sent to the well.

The Court: Objection overruled. They are received in evidence.

(The documents referred to, marked Defendants' Exhibits DP-1, DP-2, DP-3 and DP-4, respectively, were received in evidence.)

Q. (By Mr. L. E. Lyon): Mr. Barkis, did B & W, from your examination of the records, sell any other centralizers to the Gulf Oil Corporation during the period of time covered by these invoices, other than by these invoices, for use at the Goldsmith lease?

The Court: And these invoices being——

Mr. L. E. Lyon: Exhibits DP-1 to DP-4, inclusive. [2270]

A. I didn't understand the question.

(Testimony of Bruce Barkis.)

Q. The question was: Did your company sell to the Gulf for use on the Goldsmith lease any centralizers other than those shown by Exhibits DP-1 to DP-4, inclusive, during that period of time?

A. Yes, it is my recollection that we did.

Q. During that period of time?

A. During that period. These invoices were selected as just typical invoices of that period and were not complete. There were other sales made.

Q. To the Goldsmith lease?

A. To the Goldsmith lease.

Q. All right. Where are the other invoices?

A. They are in the records at Long Beach.

Q. Are these typical of those invoices?

A. Yes, they are. [2271]

* * *

A. The notation on the back of this shipping tag shows "Well 596 Gulf, August 31, 1950."

Q. Will you read the notation on the back of the shipping tag which you have testified that it is, in evidence [2272] as——

A. Exhibit 189.

Q. Well, there is one here, that is, Exhibit 191.

A. On the back of Exhibit 191, the shipping tag shows: "Removed from shipping crate at 598, 9-1-50."

Q. All right. If there is an invoice for delivery to Well 598, you will produce it?

A. Yes; we surely will. [2273]

* * *

(Testimony of Bruce Barkis.)

Q. (By Mr. L. E. Lyon): Mr. Barkis, in that sale of scratchers or your equipment of B & W during the years 1940, '41, '42, '43 and up until September 15, 1944, do you recall any mention of patents in the trade in connection with sales?

A. No, I don't recall. I don't have any recollection of any mention and discussion of patents. No, sir, I don't.

Q. Did that position remain that way after September 15, 1944?

A. Well, it reached a time when there was very considerable amount of discussion about it, but immediately after '44, I don't recall that there was any conversations or discussions about patents.

Q. For how long after September 15, 1944, did this same condition exist that there was no discussion in the sales field with respect to your equipment of patents?

A. Well, the discussion came sharply to a head in the [2274] early part of 1947.

Q. You say it came sharply to a different position in the beginning of '47?

A. Yes, it did.

Q. What was your experience with respect to sales at that time? And let me ask you this: Are you active in the selling of this equipment yourself?

A. Yes. That is my major interest.

Q. Has that always been true since the beginning of the formation of B & W?

A. Yes, that is true.

(Testimony of Bruce Barkis.)

Q. All right. Now will you please answer the other question: What you observed as a sharp differentiation in that position beginning with January or in the first of 1947?

A. Well, I was asked many times whether we owned patents, and observation was made that Weatherford Spring Company or Mr. Hall had patents, and questioned as to whether we had patents.

Q. Was reference made to any particular statement or publication by the trade in asking that question to you?

A. Yes. As soon as the Weatherford Spring Company had come out in the Oil Weekly and as soon as their first catalogue was released in 1947, why, there were a lot of questions about it.

Q. What ads and what catalogues are you talking about, [2275] Mr. Barkis?

A. The ads in the catalogue were the ones that carried the Wright patent number under the Weatherford scratcher. I have in mind the white-covered catalogue, Mr. Lyon, instead of this.

Q. Exhibit L, I believe? A. Yes.

Q. Exhibit L. I place before you Exhibits FFF, FFF-1, and Exhibit L, and will ask you which, if any, of these catalogues are the ones that you were referring to?

A. I was referring to Exhibit L and to Exhibit FFF-1. The Oil Weekly has wide circulation in the oil fields and when this publication was released

(Testimony of Bruce Barkis.)

that was the start of a lot of inquiries about patents.

Q. Were you asked—pardon me.

A. And this Exhibit L was released at about the same time, and it was either the ad in the Oil Weekly or the release of Exhibit L, which caused the inquiries.

Q. Were you asked in these inquiries as to what this patent was that Hall claimed?

A. Yes, I was.

Q. And what did you state?

A. Well, I told those people that inquired that it was a patent, a Wright patent that had been assigned to B & W, Inc., and it was owned by B & W, Inc. [2276]

Q. And did they ask why was Hall advertising it? A. Yes. Yes, they did.

Q. And what was your reply to that?

A. Well, I would tell them I didn't know the particular reasons for putting our patent number under that. And that would generally bring the next inquiry: "Is he licensed"? And I would refer to the contract of September 15, 1944, and say that he was licensed in that contract, and that would be about it.

Mr. Scofield: Would you read that answer, please?

(Answer read by the reporter.)

Q. (By Mr. L. E. Lyon): Now, prior to this time of this inquiry, I believe that you had had

(Testimony of Bruce Barkis.)

some dealings with the Shell Oil Company with respect to patents. Will you explain fully that dealing?

Mr. Scofield: Will counsel give the date of the inquiry, or about the date?

Mr. L. E. Lyon: Well, I will ask the witness for the dates.

Q. The Shell Oil Company dealings?

A. We contacted Mr. Bates of the Shell Oil Company——

Q. When was that first, Mr. Barkis, about when?

A. My recollection, it was along in June of 1946.

Q. What was your purpose in contacting Mr. Bates of the Shell Oil Company? [2277]

A. Well, at that time he was mechanical engineer and had to do with equipment; and we approached him or contacted him to determine whether Shell Oil Company was interested in taking a license under our patent. And that was the reason for the contact.

Q. Did you have a business policy behind trying to get the Shell Company to take a license under your method patents?

A. Well, we had asked Mr. Maxwell for his advice, and his advice was that we license companies under the method so that they could use any equipment that they would purchase.

Q. And did that advice have anything to do with

(Testimony of Bruce Barkis.)

your approach to the Shell Company and Mr. Bates?

A. Yes, that was the reason for approaching him.

Q. All right. Now, did you at that time ask the Shell Company through Mr. Bates, if they were interested in taking a license?

A. Yes, we did. And he asked us to prepare material that he could review to help in forming some decision as to what the Shell's policy would be on it.

Q. Did you prepare such material and submit it to Mr. Bates as he requested? A. Yes, we did.

Q. And that is set forth in a letter, that material is set forth in a letter that you wrote to Mr. Bates, is it [2278] not? A. Yes, it is.

Mr. L. E. Lyon: I will ask that the clerk produce Exhibits BQ, BR, BS. They are loose letters.

Q. I place before you three documents, Mr. Barkis, heretofore received in evidence—are they?

They are not marked on their face as received in evidence, but they are on the list.

The Court: Are BQ, BR and BS in evidence?

Mr. Scofield: Yes, sir. They are in evidence on November 25th, my list shows.

The Court: What do your records show, Mr. Clerk?

The Clerk: Yes, your Honor, that agrees with my records, November 25th.

The Court: They are not marked in evidence?

(Testimony of Bruce Barkis.)

Mr. L. E. Lyon: No. They are marked for identification, your Honor.

The Court: I suggest you hand them to the clerk now and he will mark them in evidence. According to my notes, Plaintiff's Exhibits 16 and 17 are in some way involved.

Mr. L. E. Lyon: Yes, your Honor. I would like to have 16 and 17 also.

The Court: Along with Exhibits BQ, BR and BS, apparently a chain of correspondence.

Q. (By Mr. L. E. Lyon): I place before you Exhibits [2279] BQ, BR and BS, and ask you if you are familiar with these letters, Mr. Barkis?

A. Yes, I am.

Q. Has any of these letters any relationship to this request that you state that Mr. Bates made to you for an outline of what you desired to submit to the Shell Oil Company?

A. Yes. This Exhibit BQ is a letter addressed to Mr. Bates from myself and refers to that meeting.

Q. BQ starts out: "Since our recent meeting." Does that in any way enable you to fix the date of that first meeting with Mr. Bates, that you had with Mr. Bates, that letter?

A. It is my recollection that it was a week or 10 days before this letter was written.

The Court: Upon what date?

Mr. L. E. Lyon: This letter was written on—

The Witness: There is no date shown on this letter.

(Testimony of Bruce Barkis.)

Mr. L. E. Lyon: The letter was written on July——

The Witness: July 8, 1946.

Mr. L. E. Lyon: July 8, 1946, although that date is not set forth on the copy of Exhibit BQ.

The Witness: That is correct.

The Court: Is that agreed?

Mr. Scofield: Yes, sir; I entirely agree with that. I don't think the copy shows, but I think that is about the [2280] time that it was written.

Q. (By Mr. L. E. Lyon): Now, these letters, Exhibits BS and BR, are they letters in that same chain of correspondence that started from this July 8, 1946, letter, Exhibit BQ?

A. Yes, they are. The letter, Exhibit BR, is dated October 20, 1947, and is addressed to "Mr. B. J. Gratama," of Shell Development Company, and it has reference to the letter of Exhibit BQ. And Exhibit BS is the letter of October 29, 1947, from Mr. Gratama, addressed to B & W, Inc., my attention, and refers to the letter of Exhibit BR.

Q. I hand you Plaintiff's Exhibit 16, which apparently is a photostatic copy of a letter dated July 8, 1948, and will ask if you wrote that letter also, if that is the letter that you wrote to the Shell Company on that date. Is it the same as BQ except for the date, Mr. Barkis?

A. Yes, it is. That is an identical letter except for the date at the top.

Q. Connected to Plaintiff's Exhibit 16 are some

(Testimony of Bruce Barkis.)

additional pages. What are those pages, Mr. Barkis?

A. Those are the pages showing the Shell Oil Company's usage of B & W wall-cleaning guides as referred to in the letter of Exhibit BQ, and the last sheet is a bibliography of the cementing and completion attached to the letter.

Q. Now, Mr. Barkis, I would like to have you also [2281] look at Plaintiff's Exhibit 17 and will ask if a copy of that letter was supplied to you by Mr. Gratama. I will see if there is any indication of it.

A. No, sir. I never saw this letter until it was introduced in the public use proceedings. That is my recollection.

Q. All right. Now, I also call your attention to the letter of October 29, 1947, addressed to B & W, to you, by Mr. Gratama of the Shell Development Company, Exhibit BS, and will ask you if that letter, to your knowledge, concluded the correspondence with respect to your efforts to license Shell Company under your method patents?

A. Yes, it did. This letter refers to a meeting with him in——

Q. That letter asks him for a meeting. Did you have such a meeting subsequent to that letter?

A. No, I have never met Mr. Gratama. I had no meeting subsequent to this letter.

Q. Did you take up with any other oil company, other than Shell, the question of licensing

(Testimony of Bruce Barkis.)

any other oil company to utilize your method patents, Mr. Barkis, other than the Shell?

A. It seems to me that in discussion with Mr. Toussaint of the Standard Oil that there was some reference to licenses. It is my recollection that the correspondence is in exhibits here. [2282]

Q. Well, did you take up this same question of policy with the Standard Oil, with Mr. Toussaint of the Standard Oil Company, of licensing that company under your method patents so that they might purchase equipment where they saw fit?

A. That would be the program that would have been submitted to any company.

Q. Well, were you any more successful in getting the Standard Oil Company of California to consider taking such a license?

A. No, no. We had no success at all.

Q. Did you have success in offering licenses under these patents to any oil company so that they might buy their equipment where they saw fit?

A. No. No company was interested.

Q. Now, Mr. Barkis, you were present, were you not, at a meeting had at the California Club in August of 1946?

A. Yes, I was.

Q. Who were present at that meeting?

A. Mr. Scofield, Mr. Wright, and myself.

Q. And that meeting, I believe, was held on or about the 22nd of August, it began on or about the 22nd of August, 1946?

A. It is my recollection it was on August 22nd.

Q. Will you state precisely what was said and

(Testimony of Bruce Barkis.)

done, [2283] as nearly as you can remember, the precise conversation? If you cannot remember it, give the substance of the conversation had at that time and at that place between all parties present?

Were there any other people present besides, yourself, Mr. Wright and Mr. Scofield?

A. Those are all that were present.

Q. All right. Proceed.

A. Mr. Scofield reviewed the contract of September 15, 1944. He was very critical of it. He commented, I would say, extensively about the contract and then submitted an amended contract or a supplementary contract to Mr. Wright and I.

Q. Before he submitted that contract, did he make any statement as to who he thought he was representing at that time?

A. No. He did not.

Q. Did he make any statement with reference to who he was representing before the Patent Office at that time?

A. Yes. He stated that he represented Mr. Hall.

Q. Go ahead. A. He——

Q. You stated that he presented this amended contract. What did he say when he presented that amended contract?

A. Well, he said, "You gentlemen execute this contract and I will turn over to you this new patent application that I have filed." [2284]

We had learned sometime before that the patent application No. 388,891 had been abandoned, and

(Testimony of Bruce Barkis.)

Mr. Wright asked Mr. Scofield, he said, "Why was that abandoned"?

And Mr. Scofield said, "I have filed a new application and there is new material in this new application, and if you sign this, execute this amended or supplementary contract, why, then I will assign this application over to B & W, Inc."

Q. Was there any statement or any questions asked with respect to who owned that application?

A. Yes, there was. Mr. Wright asked Mr. Scofield who owned No. 627,013, this new application.

Q. And what did Mr. Scofield state?

A. And Mr. Scofield said, "We own it."

Mr. Scofield: Who do you mean by "we"?

Q. (By Mr. L. E. Lyon): Is that what Mr. Scofield stated?

A. Meaning or referring to client, Mr. Hall, that was my interpretation of it.

Q. Now, was there any demand or ultimatum given to you and to Mr. Wright at that meeting with respect to the execution of this so-called modified or supplemental agreement?

A. Yes. It was my understanding that if we didn't execute that contract, that this new application would not be assigned to B & W, Inc. [2285]

Q. Was there any other statement made?

A. Yes, one, I think: he said that if it was not executed, he would advise his client, Mr. Hall, not to pay any further royalties.

Q. Anything else?

(Testimony of Bruce Barkis.)

A. And that he considered the contract of 1944 abandoned.

Q. Anything else? Was any statement made with reference to bringing suit against you?

A. That is right.

Q. And what was stated in that regard?

A. That suit would be brought, it is my recollection, for declaratory relief.

Q. And did you state your position with respect to the signing of this supplemental agreement?

A. Yes, we did. We told him we didn't intend to execute it.

Q. When did you make that statement, on that day, on August 22nd?

A. No, I don't believe so. Mr. Wright and I discussed that when we left the meeting, and it is my recollection that the next day Mr. Wright picked up some of the documents or files on the patent applications and then returned them, and it is my recollection that that word was given to Mr. Scofield at that time. [2286]

Q. Well, you said "that word was given" to him at that time. What word did you mean?

A. The word that we did not intend to execute the amended agreement.

Mr. Scofield: That was given the following day?

The Witness: It is my recollection that it was several days after, Mr. Scofield; that it was over a week end, as I recall.

Q. (By Mr. L. E. Lyon): Subsequent to that meeting, did you ever have any further discussion

(Testimony of Bruce Barkis.)

with Mr. Scofield with respect to the demands and ultimatums made at that meeting and answered by you as you have stated, and by "that meeting" I mean that series of meetings that started on August 22nd and continued through, I believe, August 27th—is that correct?

A. That is correct, the meetings.

Q. I mean after that, did you ever discuss this matter again of these ultimatums and this demand to execute the supplemental contract, with Mr. Scofield?

A. It is my recollection that I only saw Mr. Scofield the one day during that series of meetings, and the papers were delivered by Mr. Wright to Mr. Scofield after the week end.

Q. Well, after this week end, did you ever discuss with Mr. Scofield again the subject matter discussed at that [2287] August, 1947, conference?

A. I have no recollection that I personally had any further discussion with him——

Mr. Scofield: 1946.

Mr. L. E. Lyon: 1946 is right.

A. (Continuing): ——after 1946.

Q. (By Mr. L. E. Lyon): All right. When, to your knowledge, did B & W first approach the Gulf Oil Company or the Gulf Research and Development Company with reference to the sale of B & W scratchers to that organization or its organized companies?

A. I first approached the Gulf in 1940 on the

(Testimony of Bruce Barkis.)

Gulf Coast, the Gulf Oil Company on the Gulf Coast.

Q. Whom did you approach there?

A. I approached Mr. Joe Russell, who was in charge of production operations on the Gulf Coast at that time.

Q. Did you endeavor to sell scratchers to the Gulf through Mr. Russell at that time?

A. Yes, I did. He called in several of his superintendents. It was decided to run some B & W wall-cleaning guides on a field test, and that was done.

Q. Where?

A. Well, there were several wells included in the North Thompson field, in the Anahuac field, and those jobs were run at that time. [2288]

Q. All right. Subsequent to that, did you again approach the Gulf Oil companies with reference to the sale of scratchers to the Gulf Oil companies?

A. Yes. We made continued sales approach to the Gulf in the field.

Q. Did you approach the Gulf Research and Development Company? A. No, I did not.

Q. Did Mr. Wright, to your knowledge, approach the Gulf Research and Development Company? A. No, not until 1946 or later.

Q. All right. To your knowledge, then, you state that Mr. Wright did approach the Gulf Research and Development Company in 1946 or later. Whom did he approach, to your knowledge, at that time, in the Gulf Research and Development Company?

(Testimony of Bruce Barkis.)

A. It is my recollection that he discussed cementing problems, cementing techniques, with Teplitz of Gulf Research in 1946.

Q. At what time, do you recall?

A. It is my recollection it was in the spring sometime.

Q. Did anything, to your knowledge, result from that contact of Mr. Wright with Mr. Teplitz, with respect to the sale of your tools to the Gulf Oil Company?

A. No, I don't recall that there did. [2289]

* * *

Q. (By Mr. L. E. Lyon): You testified a few moments ago as to knowledge received by your company with respect to the abandonment of the Hall application or a Hall application or applications. How did you obtain that knowledge, Mr. Barkis?

A. There were certain assignments that were sent to the Patent Office for recording——

Mr. L. E. Lyon: May I have Exhibit AI?

A. (Continuing): ——and we got word through a letter from the Chief Clerk of the Patent Office that the Hall application had been abandoned, and asked for further instruction.

Mr. L. E. Lyon: Have you a copy of Exhibit AI?

Mr. R. F. Lyon: Here it is.

Q. (By Mr. L. E. Lyon): I place before you Exhibit AI in evidence, and will ask you if this is the letter that you referred to in your last answer?

(Testimony of Bruce Barkis.)

A. Yes. That is the letter I referred to.

Q. Was this the first advice that you had of the fact of the abandonment of Hall applications?

A. Yes. It is.

Q. Is it correct to say that you had no other information with respect to the abandonment of these applications until this meeting in August, August 22, 1946, had then between yourself and Mr. Scofield and Mr. Wright? [2290]

A. That is correct.

Q. That is, at no time were you notified by either Mr. Hall or Mr. Scofield that they had abandoned these applications?

A. No. We were not advised.

Q. When did B & W place upon the market the scratcher which has been referred to here as the Multiflex scratcher?

A. The Multiflex scratcher was released in the late fall of 1947. [2291]

* * *

Q. (By Mr. L. E. Lyon): You have stated that the Multiflex scratcher was brought out in the fall of 1947.

Just one moment.

Was this scratcher, the Multiflex scratcher, being offered for sale then, at the time of a conference had in the Ben Milam Hotel in Houston, Texas? Is that correct? A. Yes, it was.

Q. At that time was there any discussion had? Who was present at that conference in the Ben Milam Hotel?

(Testimony of Bruce Barkis.)

A. There were Mr. Hall, Sr., J. E. Hall, Jr., Mr. Scofield, Mr. Caughey of Lyon & Lyon, Mr. Wright and myself.

Q. All right. Now, at that conference was there any discussion had with reference to the Multiflex scratcher? When was that conference, first?

A. My recollection is that it was in the latter part of January, 1948.

Q. Do you have any memorandum or other document that you have in mind that would fix the date of that conference, Mr. Barkis? [2292]

A. No. I can't think of any correspondence that would fix it.

Q. Your statement is that it was in the latter part of January, 1948, is that correct?

A. That is correct. My recollection is that it ran for two days in the Ben Milam Hotel and it was along in the latter part, I would say the 20th, 21st, 22nd, somewhere in that period.

Q. Now, at that conference was there any discussion had of the Multiflex scratcher?

A. Yes.

Q. What was said and by whom and who was present at the time of that conference, when that conversation took place?

A. My recollection is that it was on the first day or shortly after we met.

Q. Was there more than one discussion had of the Multiflex scratcher in that two-day conference?

A. Yes, I believe it was mentioned, but my recollection is that shortly after we met, Mr. Scofield questioned Mr. Wright and I about our sales

(Testimony of Bruce Barkis.)

of Multiflex scratchers, and he said that in his opinion that the Multiflex was an infringement of certain Hall claims. [2293]

Q. Was the substance of that conversation repeated more than once during that two-day conference? A. Yes, sir, I believe it was.

Q. Were all of the parties present that you have named during one or more times during the time the substance of that conversation was repeated at that two-day conference?

A. It is my recollection that Mr. Hall, Sr., was only there the first day. He wasn't there—I am sure that he wasn't there the second day. But the rest of the people that I named were in attendance at the meeting.

Q. On the second day?

A. At all other times that we met together.

Q. In your recollection was Mr. Hall, Sr., present when this Multiflex discussion was first had?

A. Yes, he was.

Q. Now, Mr. Barkis, you brought out another scratcher here referred to as the Nu-Coil scratcher. When was the Nu-Coil scratcher first placed upon the market?

A. It is my recollection that it was offered for sale first along about November of 1949, possibly December of '49.

Q. So that we may be certain that we are talking about the same type of structure I place before you Plaintiff's Exhibit 72. Is that the correct specimen of Nu-Coil scratcher as sold by B & W? [2294]

(Testimony of Bruce Barkis.)

A. Yes, it is. It is a seven-inch B & W solid Nu-Coil scratcher.

The Court: When was it first offered to the trade?

The Witness: Either November or December of 1949.

The Court: And the Multiflex scratcher alluded to, is that Exhibit 57?

The Witness: Yes, sir.

The Court: The Nu-Coil was brought out about a year later?

The Witness: No, it would be three years later.

Mr. L. E. Lyon: Two years later. I think your arithmetic of both is wrong.

The Witness: Excuse me

The Court: November or December of 1949?

The Witness: Yes, sir.

Q. (By Mr. L. E. Lyon): Mr. Barkis, has your company at any time taken the position with any oil company that it would bring suit against such oil company or customer under any letters patent held by your company?

A. No, it never has.

Q. Has it consistently advised the oil companies to the contrary?

A. Yes, that has been our policy.

Q. You have answered inquiries from the oil companies with respect to your patents, have you not? A. Yes, we have. [2295]

Q. Does that include inquiries which you have received from the Gulf Oil Company?

(Testimony of Bruce Barkis.)

A. Yes, they have inquired about our patent situation.

Q. And I believe, as far as the evidence shows, a telegram which you sent to the Gulf Oil Company, and that telegram is in evidence——

Mr. Scofield: 19.

Mr. L. E. Lyon: As Plaintiff's Exhibit 19. May I have Plaintiff's Exhibit 19, please?

Q. I place before you Plaintiff's Exhibit 19, Mr. Barkis, and ask if you can explain the circumstances surrounding sending of that wire, if there were any, and give me fully what transpired with the Gulf Oil Company at that time?

A. As stated in the telegram, the Gulf Oil Corporation was buying equipment for South America. We discussed this with our counsel and anything that is in this telegram was given with that instruction or advice in mind.

Mr. Scofield: Who was the counsel then, Mr. Barkis?

The Witness: It is my recollection, in 1947. Mr. Decker was the counsel.

Q. (By Mr. L. E. Lyon): What is the rest of his name, do you recall?

A. Harold Decker.

Q. J. Harold Decker of Los Angeles?

A. Yes, that is correct. [2296]

Q. He is in the general practice of law, is he?

A. Yes, he is. That is my understanding he is.

Q. Did you have a conference with the Gulf

(Testimony of Bruce Barkis.)

Oil Company at that time with reference to these orders, or any official of the Gulf Oil Company?

A. Shortly following this—this telegram shows the date April 12, 1947—in June of 1947, Mr. Wright and I went to Pittsburgh and met with the Gulf Research people.

Q. Who did you meet there?

A. Well, I am sure that Westcott, Vollmer and Teplitz were in the meeting with Mr. Wright and I, and I believe that Mr. Kennedy, Dr. Kennedy, was also in the meeting.

Q. Was Mr. Houghton there, of the patent department of the Gulf Oil Company?

A. No. No, he was not.

Q. Not at that first meeting?

A. Not at that meeting.

Q. When was this meeting held?

A. It is my recollection the date of it was June 17 of 1947.

Q. June 17 of 1947?

A. Yes, I believe that is correct.

Q. And what was said by any of the parties present at that meeting?

A. Well, it was rather a lengthy meeting and Mr. [2297] Wright and I went to Harmarville in the morning, had lunch with the Gulf people, had further discussion for a couple of hours. All together I would say we talked for around three or four hours.

Mr. Wright and I told them we were very in-

(Testimony of Bruce Barkis.)

terested in trying to get some of Gulf's business and it was on that basis that we were there.

Q. Did you try to get the Gulf Research and Development Company to make tests of your equipment at that time?

A. Yes. We reviewed with them the fact that we had this wall-cleaning guide. Mr. Teplitz stated that he was familiar with the device. And then we told them that it was our advice that we were in a position to offer them this coiled spring type wall-cleaning guide.

Q. What did they say? Did they accept or state that they would or would not purchase the wall-cleaning guide?

A. They were firm in that. They stated that they would not purchase the wall-cleaning guide.

Q. Why? Did they state why?

Mr. Scofield: What exhibit is that?

The Court: Can you identify that by exhibit?

Q. (By Mr. L. E. Lyon): The wall-cleaning guide that you are referring to is exemplified by Exhibit 104, is it? A. That is correct.

The Court: They told you they would not purchase that? [2298]

The Witness: Yes, sir.

The Court: Did they tell you why?

The Witness: Mr. Teplitz had reviewed the Gulf's usage of that equipment, and also he had made a few inquiries from companies that were using the device.

The Court: Is this what he told you?

(Testimony of Bruce Barkis.)

The Witness: Yes.

The Court: What did he tell you? He said, "I won't use your equipment because"?

The Witness: He said, "Because I have checked into it and I won't recommend it to my company."

The Court: "Because"?

The Witness: "Because I don't believe—I don't believe it will—well, I don't believe that its performance is adequate."

Q. (By Mr. L. E. Lyon): Did you offer the Gulf Company at that time any other equipment?

A. Yes, we did.

Q. What other equipment?

A. We advised them that we were in a position to furnish them with coiled spring type wall-cleaning guides and made the offer to them of that device.

Mr. Scofield: Will you identify that by exhibit number, please?

Q. (By Mr. L. E. Lyon): Did you offer them the device [2299] like Plaintiff's Exhibit 88 at that time?

A. Yes, it is my recollection that we made them that offer at that time.

Q. Did you have that device available there at that time, or did you state that you would submit samples?

A. It is my recollection that we did not; that we said that we would send them samples of the equipment.

Q. Does that cover the sum and substance of the

(Testimony of Bruce Barkis.)

conversation had at that time and place, Mr. Barkis?

A. Yes, that is the important part.

Q. You are familiar, I believe, with the testimony of Mr. Houghton, who testified that you had assured the Gulf Company that you would not bring suit against them. Was it at that conference that you gave them that assurance?

A. I believe Mr. Wright and I made that offer at that time. Yes, I believe that is so.

Q. All right. Now, did you have any later conferences with the Gulf Oil Company officials or the Gulf Research and Development Company with respect to the sale of your equipment to that company?

A. Yes. Yes, we did.

Q. When?

A. Well, our field contacts and sales contacts continued.

Q. But you were still unable to sell them equipment? [2300]

A. But we couldn't sell them equipment, no.

Q. All right. Did you have any other conference at Pittsburgh, any later conference at Pittsburgh at which you were present?

A. No, I don't recall that I attended any more conferences in Pittsburgh that year or the following year.

Q. Did you attend any conferences with Mr. Teplitz or Mr. Vollmer or any of the members of the Gulf Research and Development Company?

(Testimony of Bruce Barkis.)

A. No, I don't recall that I made any further contact with them. [2301]

* * *

Q. And were those the entire subjects of conversation? A. Yes, they were.

Q. Were patent questions raised at that conversation?

A. There was no discussion about patents at all. In April of 1948, Roland Smith and I visited Pittsburgh and contacted the Gulf Research and also the Gulf people in the purchasing department, and at that time we were trying to get Gulf's approval to the usage of the Multiflex scratcher and the centralizer; and that was our subject of our discussion at that time. There was no discussion about patents.

Q. Now, did you have any further contacts with the Gulf or Gulf Research Department?

A. Well, the next day, Mr. Smith and I went over to Washington and talked to Mr. Houghton, and we were asking for his assistance in getting an approval for the usage, field usage of purchases of B & W Multiflex scratchers.

Q. And who was Mr. Houghton?

A. He was the patent counsel.

Q. Located where? [2317]

A. In Washington, D. C.

Q. Who was present at that time?

A. Mr. Houghton and Mr. Littlehales of the Gulf Companies, and Mr. Smith and myself. [2318]

(Testimony of Bruce Barkis.)

Q. Where did that conversation take place?

A. In Mr. Houghton's office. I don't recall the name of the building.

Q. In the Ring Building, wasn't it?

A. I don't recall.

Q. That was in Washington, D. C.?

A. Yes.

Q. When did this conversation take place?

A. It was the day after we had visited with Gulf in Pittsburgh, in April, April 23rd of 1948.

Q. Just give the substance of the conversation that was had at that time and place by all parties present.

A. Well, I have stated that we were trying to get Mr. Houghton's assistance in getting approval for the field usage and purchases of the B & W Multiflex scratcher. And I recall in one instance Mr. Houghton was a little confused about the equipment and I told him that I would send him samples of that equipment, and when I returned to Houston I did ship up a centralizer and a scratcher and several pieces of equipment to him, which he later returned.

Q. Have you given the full substance of the conversation had at that time?

A. That is all I recall of it.

Q. Did you have any further contacts with the Gulf Company after that time? [2319]

A. Well, the field testing of the Multiflex continued into south Louisiana, and Teplitz made several jobs on the Mississippi delta and I made those

(Testimony of Bruce Barkis.)

jobs with him, and finally approval was given for the usage of the Multiflex scratcher.

Q. And that approval was from a research standpoint, was it? A. Yes, it was.

Q. Was any discussion had at that time with respect to patents?

A. No, sir. Teplitz and I did not discuss patents.

Q. All right. Did you have any further contact with the Gulf? A. Well, that was in 1948.

Q. And by that I mean you personally.

A. Normal sales contacts, contacting different field offices on purely sales matters.

Q. In any of those conversations did the question of patents or notices of infringement or anything arise?

A. No, sir. That was not discussed.

Q. There was no question raised at any of these sales meetings or no statement made by you with reference to patents of any kind, is that correct?

A. That is correct. In 1950, after B & W had released the Nu-Coil scratcher, I contacted Mr. Joe Russell in his office in the Gulf Building at [2320] Houston.

Q. Now, before, you were talking about contacts in 1949? A. In 1949, yes, sir.

Q. Now you are in 1950? A. That is right.

Q. Just so we have this record straight.

A. Yes.

Q. All right.

A. I contacted Mr. Russell to see if the Gulf would use our B & W Nu-Coil scratcher.

(Testimony of Bruce Barkis.)

Q. Now, when was that?

A. In March, 1950.

Q. Where?

A. At Houston, in Mr. Russell's office in the Gulf Oil Building.

Q. And who was Mr. Russell?

A. He was the vice-president of production, or the head man on the Gulf coast for the production department of Gulf.

Q. Was anyone else present besides you and Mr. Russell?

A. No, sir. Mr. Russell and I were the only ones present in his office.

Q. Will you give the substance of the conversation had between you and Mr. Russell at that time and place?

A. I reviewed with him our list of scratcher and [2321] centralizer equipment, and told him of the work that Teplitz and I had done, in fact, that our equipment was on Gulf's approved list, and asked him for more extensive purchases of our equipment.

He referred me to Mr. Foster, Ed Foster, who was the head of the purchasing department on the Gulf coast for Gulf at Houston.

Q. Yes?

A. So I contacted Mr. Foster then, in the same building, in his office, and asked him for purchases of B & W——

Q. Was that the same day at the same place?

A. The same day at the same place, yes.

Q. Were just you and Mr. Russell present?

(Testimony of Bruce Barkis.)

A. No. Mr. Foster and I.

Q. I mean Mr. Foster and yourself.

A. Yes.

Q. The only ones present, now?

A. Yes, in his office.

Q. And you are giving the conversation had at that time? A. Yes, I am.

Q. O.K.

A. I asked him for his purchase orders of our equipment. And Mr. Foster reviewed how much they had bought from us, and they had a list of purchases from different companies, [2322] and that was the sense of our conversation.

Q. Did any question of patents or notices of patent infringement or threats arise at that meeting?

A. No. The subject of patents was not discussed at all.

Q. All right. Now, did you have any other contact with the Gulf Company in the year 1950, that you now recall?

A. Well, just the usual and normal sales contacts in the field and in different division offices.

Q. Did any questions of patents arise in any of these conversations that you had——

A. No, sir.

Q. ——with any official or employee of the Gulf Company?

A. No. That subject of patents was not discussed at all.

Q. All right. Now, that covers the year 1950.

(Testimony of Bruce Barkis.)

Now, how about the year 1951? You might engross that question and take the years 1951, 1952, and up until the present time, Mr. Barkis.

A. There is no outstanding contacts in my mind that were made in those three years. Just the usual.

Q. Did any questions or any discussions that you had with the employees or officials of the Gulf Company during those three years have anything to do with patents or notices [2323] of infringement or claims of any kind?

A. I can't think of a single instance where there was any discussion about patents.

Q. Did you have any discussion with any party in the Gulf Oil Company after January 12, 1952, with reference to the so-called \$2.50 royalty letter?

A. I recall one instance of a visit to Pittsburgh, and I believe it was in 1950, where I did contact Mr. Cooke.

Q. Who is Mr. Cooke?

A. Mr. Cooke replaced Mr. Houghton as head of the patent department.

Mr. L. E. Lyon: May it be stipulated, Mr. Scofield, that Mr. Houghton is now deceased?

Mr. Scofield: I did not know that he was dead. I knew that Mr. Cooke replaced him.

Mr. L. E. Lyon: Yes. Well, he is now dead.

The Court: Do you stipulate to that, Mr. Scofield?

Mr. Scofield: Yes, I will stipulate.

The Witness: What was your question?

Q. (By Mr. L. E. Lyon): I believe I inter-

(Testimony of Bruce Barkis.)

rupted your statement to find out if Mr. Cooke replaced Mr. Houghton, and that statement has been made.

The reporter will read the last question.

(Record read by the reporter.)

Q. (By Mr. L. E. Lyon): You had this conversation with [2324] Mr. Cooke. Who was present at that conversation?

A. I made just what I would term a social visit to Mr. Cooke, having been in Pittsburgh to contact the purchasing department.

And Mr. Cooke called Mr. Littlehales into the office and the three of us sat for five or ten minutes at the most.

Q. Was there a question of patents or notices discussed, or did you notify them?

A. No. There was no discussion of patents. It was merely a social visit, I would term it.

Q. All right. We were asking with reference to this \$2.50 royalty letter, and I will ask you if you had any conversation with the Gulf Company with respect to that letter, or with the Gulf officials or its employees?

A. No. I don't recall that the Gulf made any issue of that situation of the Scofield demand for \$2.50 royalty.

Q. I believe after the last session I had a further invoice marked for identification and I believe it was given to you. It was marked after we had all

(Testimony of Bruce Barkis.)

left the courtroom. And whom did you give that invoice to, Mr. Barkis?

A. The secretary in back, so as to hand it to the clerk. It was a pink invoice.

Mr. L. E. Lyon: Did she hand you that invoice, Mr. Clerk? That is the one we are waiting for.

The Witness: I recall the number. It was Exhibit DQ. [2325]

Mr. L. E. Lyon: Exhibit DQ for identification.

The Clerk: Will you excuse me, your Honor, and I will look in the office for it?

The Court: Yes.

Q. (By Mr. L. E. Lyon): At the last session of this trial, Mr. Barkis, the question was raised with respect to Wells 596 and 598 of the Gulf Company, and you testified, I believe, you had only looked for invoices with respect to Well No. 596, and I requested you to produce any invoices that you might have with respect to Well No. 598. Have you been able to find any such invoice?

A. Yes, that invoice was found among the records, among the office records, and was brought up here to court.

Q. And marked Exhibit DQ for identification?

A. That is correct.

Q. And how was that invoice found? Did you personally look for it, or did you make a call to the accountants?

A. No. I just called our Long Beach office and told them to get that record, to get that [2326] invoice.

(Testimony of Bruce Barkis.)

Q. (By Mr. L. E. Lyon): I place before you, Mr. Barkis, a document heretofore marked for identification as Defendants' Exhibit DQ, and I will ask you if you can identify this document?

A. It is a copy of an invoice from B & W, Incorporated, to Gulf Oil Corporation, Invoice No. 7673-H, dated September 26, 1950, for Well No. Goldsmith No. 598-56, covering "4—B & W Latch-on Centralizers, 7-inch spiral bow, at \$32.00," for \$128.00, and "18 B & W Nu Coil scratchers for 7-inch API casing, at \$6.25"; net amount, \$204.42, and there is typed thereon, "Delivered to You at Goldsmith, Texas, 8/31/50. Our Delivery Ticket No. 3992."

That is a copy of the original invoice to the Gulf Oil Corporation.

Mr. Scofield: Mr. Barkis, was that sold through a supply store to Gulf?

The Witness: It was sold directly as shown on the invoice.

Q. (By Mr. L. E. Lyon): Were all sales to the Gulf Company at the Goldsmith lease at that time made direct to the Gulf Company as shown by these invoices, or were there sales made other than direct at that time? [2328]

* * *

A. At that time all sales of B & W to the Gulf Oil Corporation, to the Goldsmith pool, were made direct to the Gulf Oil Corporation.

Mr. L. E. Lyon: I will offer the document heretofore identified as Defendants' Exhibit DQ for

(Testimony of Bruce Barkis.)

identification, in evidence as Defendants' Exhibit DQ, and I will identify it for the record as Invoice No. 7673-H, dated September 26, 1950, on the Gulf Oil Corporation Order No. A-98587, Well No. Goldsmith No. 598-56, and sold to Gulf Oil Corporation, P. O. Drawer 1290, Fort Worth 1, Texas, and showing the delivery of four B & W Latch-on Centralizers, 7-inch spiral bow, at \$32.00, and 18 B & W Nu Coil scratchers for 7-inch API casing, at \$6.25.

Mr. Scofield: No objection.

The Court: It is received in evidence.

(The document referred to, marked Defendants' Exhibit DQ, was received in evidence.)

Q. (By Mr. L. E. Lyon): Mr. Barkis, you have testified with respect to the Jones and Berdine report, I believe. Were you present at the A. P. I. meeting in the Biltmore Hotel when that report was read?

A. Yes, I was.

Q. Was Mr. Wright also present?

A. Yes; Mr. Wright and I attended the meeting together. [2329]

Q. How many other people were there?

A. There were between six and seven hundred people that attended that meeting.

Q. Were you a member of the A. P. I. at that time?

A. Yes, I was.

Q. Have you held an office in the A. P. I.?

A. Yes. I was chairman of the Division of Production for the Pacific Coast District in 1935 or 1936.

(Testimony of Bruce Barkis.)

Q. What is the A. P. I.?

A. The American Petroleum Institute is a trade association of people in the oil industry.

Q. Well, what do you mean by a "trade association of people in the oil industry"? Who are its members? What constitutes its membership?

A. Its members are people who are directly connected with the oil industry, and one of the major purposes is for the exchange of information toward the more efficient production, refining, and marketing of oil and its products.

Q. You say that there were six or seven hundred people present at this A. P. I. meeting held at the Biltmore Hotel. Was there any particular class of people that were there at that time? [2330]

A. Yes. There were executives, supervisors, technicians, engineers, and that class of people.

Q. All connected with the oil industries?

A. All either employees of oil companies or oil field service companies or consulting engineers or on that level.

Q. This meeting was held at the Biltmore Hotel on what date? A. March 19, 1940.

Q. Was a paper read at that meeting by Mr. Jones, Philip Jones?

A. Well, he didn't read a paper. He presented a paper. The paper had been prepared, which is in evidence here, and Jones——

Q. In evidence as part of Defendants' Exhibit X?

A. Yes; it is a part of that exhibit—and Jones

(Testimony of Bruce Barkis.)

presented the paper but he didn't read word for word from the report.

Q. How did he present the paper?

A. It was an oral presentation. He had the subject well in hand and he presented it by throwing slides that are a part of the Exhibit X on the screen, and he then described the different test apparatus and the results and commented on it.

Q. Did he describe the equipment?

A. Yes, he did. [2331]

Q. How did he describe it?

A. Well, in detail. Any of the important features of the equipment, why, I would say that Jones probably took 40 to 50 minutes in presenting the subject.

Q. I place before you Exhibit X, Mr. Barkis, and I will ask you if Mr. Jones in his presentation of this matter before the API meeting on March 19, 1940, described the structures as shown in Figures Nos. 14, 18 and 26 of the Jones & Berdine report, and I will ask you to answer that question just yes or no. A. Yes.

Q. All right. Now, how did he make that description?

A. He had a pointer and as the slide was thrown on the screen——

Q. You mean he had slides?

A. Yes; he had lantern slides of all of these photographs that are a part of this exhibit. and those were thrown on a large screen.

Q. Did he describe the equipment in detail as

(Testimony of Bruce Barkis.)

shown by those lantern slides by the use of this pointer?

A. Yes; he would point to the different features that were of importance and describe the different test apparatus.

Q. With respect specifically to Figures 14, 18 and 26, did or did not Mr. Jones state at that meeting how the structures shown in those figures were mounted on the pipe as [2332] shown on the slides?

A. Yes, he did.

Q. What did he say?

A. He said that the equipment was mounted on the casing so that it would slide or rotate, freely mounted on the casing between these retaining rings.

Q. Did he describe how the retaining rings were put on the casing as shown by these photographs or the slides? And let me ask you, were the slides identical with the photographs, Figures 14, 18 and 26, or were they different?

A. No; it is my recollection that all of these slides were included.

Q. I am asking only one question, Mr. Barkis: Were the slides that were projected identical with the photographs appearing in Exhibit X?

A. Yes; they were. They were made from the negatives of these photographs.

Mr. Scofield: I would like to ask an answer, too, to that compound question just before, as to how the devices, that is, the scratchers, were mounted on the casing, if he described that.

The Court: Will you answer that?

(Testimony of Bruce Barkis.)

The Witness: It was my understanding——

The Court: How Mr. Jones described the mounting of the scratchers on the casing? [2333]

The Witness: It was my understanding that I had answered that question already.

Mr. Scofield: I believe there is a question unanswered, your Honor.

The Court: The witness states he understands he has answered it.

Mr. Scofield: No, he hasn't answered it.

Mr. L. E. Lyon: What was your answer, Mr. Barkis, so that we might proceed?

Mr. Scofield: Would you read the question, please?

Mr. L. E. Lyon: Read the question and answer, if you are going to do that.

The Court: Well, it is to satisfy you, not the questioner. You are interrupting this examination, Mr. Scofield, out of order.

Mr. Scofield: Yes, sir.

The Court: But I was permitting it in the interests of time. The witness, as I understood, stated that Mr. Jones had explained that the casing was mounted to rotate—I mean the scratcher was mounted to rotate freely on the casing between the retaining rings. I understood him to mean by retaining rings what we have referred to previously here as lugs; is that correct?

The Witness: Yes, sir; that is correct.

The Court: Is that your answer, [2334] substantially?

(Testimony of Bruce Barkis.)

The Witness: That is a fair statement of my answer.

Mr. Scofield: I believe that Mr. Lyon then asked him if Mr. Jones in his lecture described just how the scratchers were mounted. I should like to have that question and answer read, if you please.

Mr. L. E. Lyon: Well, that is the question and answer that the court has just repeated.

Mr. Scofield: No, I don't think so.

The Court: Let us proceed. You may ask it on cross-examination if you are not satisfied with the record, Mr. Scofield.

Mr. Scofield: All right.

Q. (By Mr. L. E. Lyon): Let us proceed specifically with reference to Figure 26, Mr. Barkis, of Exhibit X. And, as I understand your testimony, a slide of that figure was projected on a wall. About how big a projection was it?

A. I don't believe I said it was on a wall.

Q. Or on a screen. Pardon me.

A. On some sort of a screen, and my recollection is that the screen was seven feet square, somewhere in that proportion.

Q. All right. Now, Mr. Jones then took a pointer, if I understood your testimony, and pointed to the structure as shown on this Figure 26 slide and described just what was shown there. Can you repeat just what he said? [2335] A. He——

Q. If you can't, say you can't, but give me the summary of it; or if you can say just what he said, give me just his words.

(Testimony of Bruce Barkis.)

A. I recall one thing that he mentioned, the balls on the ends of the wires was welded balls, mentioned that they were to prevent tearing of the canvas.

Q. Is that in addition to what you have testified before with respect to this Figure 26 about its rotatability?

A. Yes, that is true. I don't recall that I have ever testified about Jones' presentation of this device. I mean of this subject at the Biltmore.

Q. Well, I mean that you testified right here a minute ago. I don't mean at some other time.

A. That is correct. I have testified that the device is rotatable on this casing between these retaining rings, and the wires extend spirally from the scratcher, and that there are balls on the ends of the wires to prevent tearing of the canvas bag in the test apparatus.

Q. Is that the summary of what Mr. Jones stated from the slide at the API meeting?

A. That is my recollection.

Q. Similarly, did he make any statement with respect to the slides of Figures 18 and 14; and, if so, will you tell me? [2336]

A. It is my recollection that he mentioned the end forming of the wires and was concerned about the canvas bag and the tearing of the bag; and he, in my recollection, commented on that in each of the structures.

Q. Did he state that in Figures 14 or 18 or 26 structures that those structures tore the bag?

(Testimony of Bruce Barkis.)

A. No. He said that they did not.

Q. How did he come to make this statement with respect to tearing the bag? Did he refer to any other structure?

A. It is my recollection that he had referred to the first test when the wires had torn the canvas, and he used that reference then to explain the forming of the wires in these other figures, in Figure 14 and Figure 18 and Figure 26.

Q. Did he describe how those tests were made?

A. Yes, he did.

Q. Using this structure at the API meeting on March 19, 1940?

A. Yes. He discussed how the tests were made, thoroughly.

Q. Did he have any slides there which showed the apparatus which was used, Mr. Barkis, in making the tests?

A. I do recall, further, a slide of the test apparatus mounted against the tank, which is one of the exhibits here. I don't recall that he used that slide, but as far as the different test apparatus and the equipment and the results [2337] on the ground, the different cement billets, why, he was very complete in those.

Q. You state that he did describe the tests that had been made using the apparatus of Figures 14, 18 and 26. Will you state what he described to the API meeting on March 19, 1940, with respect to those tests?

A. He would throw pictures or slides of the re-

(Testimony of Bruce Barkis.)

sults of the usage of the equipment in 14, 18 and 26 on the screen and discuss the effectiveness of the cementing operation, of mud removal.

Q. All right. I don't believe you got my question. Did he describe how the tests were carried out and what the apparatus was?

A. Oh, yes. Yes, he did.

Q. Did that description follow or did it vary from the written description contained in the report contained in Exhibit X?

A. I believe that it followed that rather closely, the same outline that is followed in the formal report.

Q. That is, of describing the apparatus used?

A. Describing the apparatus used.

Q. Some method or manner, as described by Mr. Jones, of raising and lowering or reciprocating the casing during the time of the test. What form of means was used in making that reciprocation, to your knowledge, Mr. Barkis? [2338]

A. There was a block and tackle used. This block and tackle, or the hook on that block, was attached to the upper end of the three and one-half-inch casing through a connection, and a man on the top of the tank would pull on the rope and that would move the casing on up and down about four feet.

Q. I place before you Exhibits AC-1 and -2, Mr. Barkis, which are two photographs, and I will ask you if you can identify those photographs and if you can tell me what they are?

(Testimony of Bruce Barkis.)

A. They are photographs showing the mounting of the test apparatus next to the tanks in the Dominguez Field for the Jones & Berdine tests, and show the mud overflow chamber, the A-frame for handling the block and tackle that was used in moving the three and one-half-inch casing inside of the seven-inch test apparatus.

Q. In Exhibit AC-1, Mr. Barkis, mounted or standing on top of the tank or on a platform on top of the tank is a man as shown in this photograph. What is that man doing?

A. He is pulling on the rope of the block and tackle to move the three and one-half-inch casing up and down during the mud removal and cementing operation.

Q. Just what was this test that was being carried on? Will you describe in detail the test and how it was performed and the structure in which it was performed, using these photographs where applicable or Exhibit X where applicable? [2339]

A. The outer case of the test apparatus was a seven-inch o.d. cylinder about 15 feet long.

Q. While we are at it, Mr. Barkis, in Exhibits AC-1 or -2 it might be well, where applicable, just to put a letter or indicating insignia on that exhibit which will point out the particular part that you are referring to. I will hand you a pen. You said there was a casing. Mark that casing on Exhibit AC-1 as part "B-1" and in subsequent enumerating of parts just continue the sequence with the letter "B" followed by the number.

(Testimony of Bruce Barkis.)

A. There are four test apparatus shown here next the tank. I will mark the right-hand test apparatus. I have marked the seven-inch casing, outer casing, "B-1."

Q. All right. Now, on the top of that casing——

A. On top of the casing——

Q. Is what?

A. ——and as shown in Figure 1 of Exhibit X there is an overflow basin.

Q. All right. Mark that "B-2," will you, please?

A. I have marked it "B-2." The seven-inch casing is flanged throughout its length so that it can be disconnected from the overflow basin "B-2" and be laid on the ground. A portion of the seven-inch outer casing is perforated with small holes. My recollection is that they were about one-eighth-inch holes and very closely spaced. Some of the seven-inch outer casing was left blank. [2340]

Mr. Scofield: And during that answer, Mr. Barkis, you are referring to——

The Witness: Figure 1 of Exhibit X.

Mr. Scofield: Yes.

Q. (By Mr. L. E. Lyon): Now, Mr. Barkis, in this photograph, Exhibit AC-1, there is shown a pipe structure above the top of the second test apparatus, and what does that include?

A. That is the circulating head. That is also shown on the top of Figure——

Q. Can you mark on Exhibit AC-1 the circulating head? If so, mark it "B3."

A. "B3," and I have so marked it.

(Testimony of Bruce Barkis.)

Q. All right. Now, connected to the circulating head is what, on the outside of the test apparatus that is visible?

A. Connected to the test head on the left-hand side of the third well from the right, the one which is marked "B3," is a circulating hose or a mud hose.

Q. All right. Will you mark that mud hose?

A. "B4"?

Q. "B4."

(The witness marks on exhibit.)

Q. All right. Now, on the other side of that head there is also a hose, I believe. What is that hose, or is that a hose on the other branch of B3? [2341]

A. It is rather indistinct. If there is, it would have been used for cementing.

Q. All right. Let us mark that rather indistinct hose that has been referred to, that would have been used for cementing, as "B5."

(The witness marks on exhibit.)

Q. All right. Now, connected to this head, at the top of it, is a block and tackle, is there not?

A. Yes, there is.

Q. Will you mark that block and tackle "B6"?

A. And as shown in Figure 1 of Exhibit X there is an eye for the hook for the rope block.

Q. All right. Just mark the eye "B6" then, and the block and tackle as "B7."

(The witness marks on exhibit.)

(Testimony of Bruce Barkis.)

The Court: This drawing the witness is referring to is Figure 1 in Exhibit X, is it not?

Mr. L. E. Lyon: Yes, your Honor.

The Witness: Yes, that is correct. [2342]

* * *

Q. Mr. Barkis, you were explaining the Jones and Berdine experiments from Exhibits AC-1 and AC-2 and Exhibit X, describing the structure first and then its method of operation. Will you proceed with that description?

A. The hook of the block and tackle, B7, the hook being B6, was hooked into the eye on top of 3½-inch casing, the cementing head on top of the 3½-inch casing, and the man on top of the tank, by pulling on the rope, could raise the 3½-inch casing inside the stationary 7-inch casing which is marked here B1.

It is my recollection that the equipment was assembled on the ground and then raised alongside of the tank.

Q. What was assembled in each of the 7-inch casings [2366] numbered B1 on Exhibit AC-1, Mr. Barkis, what was the assembly?

A. The assembly consisted of the outer 7-inch casing, which was flanged, and then, inside of that, was a canvas bag.

Q. What was the purpose of the canvas bag?

A. The canvas bag was to simulate the wall of the well bore and to provide a means for building a mud cake on certain portions of the well bore.

(Testimony of Bruce Barkis.)

After this assembly was put together and raised up alongside of the tank, mud fluid was circulated in through the hose B4 and through the circulating head and down through the 3½-inch casing, and then upward in the annulus between the 3½-inch casing and the canvas bag.

Q. For what purpose?

A. And up to the overflow basin, and then it returned from there through a line out to the mud pit again.

Q. For what purpose was this mud circulated?

A. The purpose was to simulate circulation in a well bore and to build a mud cake on certain sections of this test apparatus to simulate the subsurface condition in a well.

I mentioned the holes before in the outer casing. The combination of those holes and this canvas bag and the mud fluid circulating in the annulus in there provided [2367] filtration through the canvas bag, so clear fluid and the mud cake then, the solids of the drilling mud, would deposit on this simulated permeable section of the hole.

That was the purpose of circulating mud through the test apparatus.

Q. All right. Now, was anything done with this apparatus during the time of the circulation of the mud as you have described it?

A. It is my recollection that that circulated for quite a little period so as to build a mud cake, or filled it and allowed the well to set so as to build the

(Testimony of Bruce Barkis.)

mud cake on the perforated section after that was done.

Q. Then what was done?

A. And one thing I think I overlooked was that the test apparatus that was to be tested was installed on this 3½-inch casing and put down into the apparatus before it was raised up alongside of the well, whether it was the Cosco guide or the B & W scratcher or Halliburton's spiral cleaner or any of the other test apparatus.

Q. All right.

A. It was circulated then for a certain period.

Q. What was circulated?

A. Mud fluid was circulated through the system there until the engineers, Jones and Berdine, had established that there was an adequate cake on the simulated formation or on [2368] the canvas bag.

Then there was movement of the cake. If I could refer to the report, I could tell you.

Q. You can refer to anything that is in front of you as part of Exhibit X.

A. There are two tables here, Table 1 and Table 1 continued, of the Exhibit X.

Q. And those two tables that you refer to are the tables that fold out of Exhibit X? [2369]

A. That is correct; and those tables give the details of all the tests that were performed by Jones & Berdine. I will select one test marked "eight": "Test well 1: D.W. Shoe," which is the down-whirler shoe, which identifies it as being one of the Baker Oil tools "(80 per cent side ports)." That

(Testimony of Bruce Barkis.)

indicates that 80 per cent of the fluid was going out through the side ports of the shoe and 20 per cent was going down.

Q. Mr. Barkis, it might be better to take one of B & W's instead of Baker's.

A. I am referring to Figure 26 in here, but the Baker equipment was used on the bottom of the shoe in the casing in all of these tests, and I believe the B & W tests were borne out.

Q. Pardon me.

A. There is "none" device on the casing, meaning that they were testing the effectiveness of the hydraulics or hydraulic means of removing mud fluid through the Baker device, there being three ways of taking mud cake off—hydraulically, chemically, and mechanically. And this is testing the hydraulic means of mud removal right at the shoe.

In test well 2 by means of "ditto," meaning that the same Baker shoe is used on the bottom; and under the middle section "devices on casing" shows that "wire wall scratchers (Fig. 26) 36" and 72" above shoe," shows that the B & W [2370] scratchers of Figure 26 were installed on the 3½ inch casing 36 inches above the Baker shoe and 72 inches above the Baker shoe.

Q. That is, then, there were two such scratchers used in that test?

A. On that test there were two such scratchers mounted on the 3½ inch casing.

Continuing over, just taking that particular test, the next column shows "Procedure after forming

(Testimony of Bruce Barkis.)

mud cake” as the main column, and then three sub-columns. It says “Mud circulating period 17 minutes.” That would indicate that after the mud cake, as I have testified, was formed, that mud fluid would be circulated through the system for 17 minutes.

Q. Was any other operation performed during the circulation of that mud for the 17 minutes?

A. I would have to refer back to the body of the report to show whether the casing was removed in that period.

Q. Well, will you do that? Don’t you recall?

A. It is my recollection that they did.

Q. Isn’t it your recollection that that is what the purpose of this man standing up here with this block and tackle was? A. Was to move it.

Q. To reciprocate the casing during that 17 minutes [2371] and during subsequent placing of the cement?

A. That is my recollection; that the casing was moved during the mud circulation period and during placement of cement slurry.

Mr. Scofield: We will stipulate that, your Honor.

Mr. L. E. Lyon: All right. Proceed, then.

A. The next sub-column shows that water circulating period was three minutes.

Q. What was that for?

A. Water was put ahead of the cement slurry. In other words, the mud fluid was circulated for 17 minutes and then water was pumped through

(Testimony of Bruce Barkis.)

the system for three minutes during the travel of this.

Q. Why do they pump the water through?

A. It is sometimes done, and you realize that this is a cementing test and investigation to find out whether there is any added advantages of circulating water ahead of the cement slurry.

Q. Go ahead. They were trying to determine if there was any advantage of any circulating water between the mud and the cement, then?

A. That is my interpretation of it.

Q. All right.

A. The next column shows a column of slurry pumped in cubic feet, or shows on this particular test $16\frac{1}{2}$ cubic feet.

Q. That is the amount of cement that was placed in the casing then?

A. Well, I don't know without doing a little arithmetic in here how much cement it would take to fill the annulus between the $3\frac{1}{2}$ and the 7-inch casing. My impression is it would not be $16\frac{1}{2}$ cubic feet but an excess was put on in.

Q. And some of it probably pumped up in this——

A. Into this overflow chamber and probably traveled on out through the system.

The next column shows the slurry velocity in the annulus in feet per second, and it shows that that on this particular test was $2\frac{1}{2}$. There is a sub-heading of "A." It says "with exception of run 11, test wells 2 and 4, in each mud velocity of the

(Testimony of Bruce Barkis.)

annulus was about $21\frac{1}{2}$ feet per second." The velocities of mud to water pumped ahead of slurry were substantially the same as the indicated slurry velocities.

Q. What does this word "slurry" mean? Is that a word used in this art?

A. Yes, it is a very common word. Cement slurry is a mixture or mix of cement and water. It is fluid, has all the characteristics of a fluid, and is mixed with different weights with a certain amount of water. Usually the mix would be about one cubic foot of cement and seven-seven and one-half gallons of water. That is to make the cement [2374] pumpable so it can be handled by the cementing pumps and so that it will travel through the well system.

Q. All right, proceed.

A. The next column is cement-water slurry, water ratio in per cent. It shows that a 50 per cent slurry was used.

Q. That means half cement and half water, I take it?

A. Well, a cubic foot of water and a cubic foot of cement would be 50-50, and a cubic foot of water would be about seven and one-half gallons of water, as I have testified.

The next column is "moving the casing in inches." It shows 42 inches. It shows that this man in Exhibit AC-1 would pull on this rope so as to move the casing up and down 42 inches.

Q. Was there any way he had of determining that he had moved 42, and not 40 or 44 inches?

(Testimony of Bruce Barkis.)

A. No, there was no rigid stops on it. It was a matter of his judgment, but he probably had some marker in there. It was in the range of 42 inches.

Q. That is, it came within somewhere between 40 and 44 inches; that might be a reasonable estimate?

A. I am sure of that. One thing I might comment about this method of raising in here. This hose is rigidly attached to this circulating or cementing head.

Q. You mean by that the hose B-4? [2375]

A. B-4 is attached to the head B-3. The hook in the lower block, the traveling block of B-6 is hooked rigidly into the eye which is shown at the top of Figure 1, and in raising this apparatus up and down, the three and one-half inch casing up and down, why, it would travel straight up and down. There would be no possibility of the three and one-half inch casing turning or rotating inside of the test apparatus.

One other column.

Q. Oh, pardon me.

A. The last column in Table 1 continued shows that in this test that the mud viscosity was 26, which would be 26 seconds through the Marsh funnel.

Q. These tests were made over what period of time, Mr. Barkis, do you recall?

A. The tests were made in the fall of '39 and extended into the spring of '40, 1940.

(Testimony of Bruce Barkis.)

Q. In this Exhibit X, in the first eight pages of Exhibit X, which, as I understand it, was a report made to the Union Oil Company, on page 5 there is the statement: "These scratchers are relatively inexpensive, costing only \$7.50 each for seven-inch casing." Were you quoting and offering scratchers for sale to the Union Oil Company at the time of this report for \$7.50 each for a seven-inch size? [2376]

A. This report is dated March 19th; the letter of transmittal is dated March 15, 1940, and at that time we were quoting the Union Oil Company seven-inch scratchers for \$7.50.

Q. So that you were actually offering, were you not, the scratchers of this report to the Union Oil Company for \$7.50 each? A. Yes, we were.

Q. This report and these tests, did they determine any factors for the B & W with reference to scratchers? I mean the work that the Union Oil Company did? A. Yes.

Q. What were those factors?

A. So it is clear in my mind just what your question was, could it be re-read, please?

Q. I said, did the work of the Union Oil Company determine for B & W any factors or anything at all with reference to scratchers? A. Yes.

Q. Did you learn anything by these tests, in other words? A. Definitely we did.

Q. All right. What did you learn?

A. To remove mud cake required abrasion of the formation, as shown by the—— [2377]

(Testimony of Bruce Barkis.)

Q. What do you mean by abrasion?

A. I mean scratching the mud cake off of the formation.

Q. Did it show you how that you could effect such abrasion?

A. Yes, it showed that by contacting the wall of the well with the wires of the scratcher that the mud cake could be removed.

Q. Any part of the wires?

A. From the ends of the wires showed removal.

Q. Did it teach you anything else with respect to these scratchers which B & W was making and had used in these determinations?

A. Well, yes.

Q. All right. What else?

A. One thing that stood out, the test apparatus was seven inches in diameter and that would make the circumference of the hole within a range of 21 or 22 inches, and on the three and one-half inch wall cleaning guide as shown in Figure 26 there are 30 wires. If these scratchers moved up and down in the same plane, there would be incomplete removal of the mud from the wall of the hole, and it was shown in the results of these tests that it was complete mud removal, and that could only be accomplished by the device turning on the casing and the ends of the wires taking off the mud cake between the spacing of the wires on the [2378] device.

Q. Did it teach you anything else?

A. The corollary of that would be that if the

(Testimony of Bruce Barkis.)

scratchers did afford complete mud removal in there, that the device did turn, rotate on the casing during the reciprocation or movement of the casing by the operator on the top of the tank.

Mr. Scofield: I move that that be stricken as not responsive, your Honor, and as volunteered.

The Court: Motion denied.

Q. (By Mr. L. E. Lyon): Proceed. Did it teach you anything else, Mr. Barkis?

A. Well, the results of the tests were satisfactory, very satisfactory. It showed that the removal of the mud cake from these sections where there had been a mud cake formed in the test apparatus was entirely satisfactory, from the photographs and from the conclusions of the report. Jones was very complimentary of the B & W equipment, and that is shown in the recommendations that he made to his company in there in the company report at the front of Exhibit X.

Q. With reference to Figure 26 did you learn anything with respect to that type of scratcher as compared with any other type of scratcher that you offered to Jones?

A. The performance of 26 was entirely satisfactory. As I have already testified, the trace of the pattern on Figure 27 shows that the markings on the outside of the cement billet, and those are interpreted—I interpret them [2379] as indicating that there was rotation of the scratcher on the three and one-half inch casing while the casing, three and one-half inch casing, was being reciprocated.

(Testimony of Bruce Barkis.)

Q. In Figure 26 which way do the ends of the wires extend, Mr. Barkis?

A. Mr. Jones has described underneath the photograph: "Wire wall scratcher with wires bent spirally; outside diameter of scratcher slightly greater than inside diameter of this well." I would agree with him that the outer ends of the wires on the scratcher were bent spirally.

Q. I place before you again Exhibit IIII, which is mounted on the piece of casing, aluminum casing, Exhibit CF, and I believe you have previously testified with respect to this exhibit and to the direction in which these wires extended. How do those wires extend from the casing or the collar which is mounted on the casing?

Mr. Scofield: That is objected to, your Honor. The device itself is the best evidence.

The Court: Doesn't it speak for itself?

Mr. L. E. Lyon: It probably does, your Honor.

The Court: Is that preliminary to something?

Mr. L. E. Lyon: Yes, your Honor.

The Court: He may state or estimate.

A. The wires extend from the holding clip in which it is anchored, each wire extends from the holding clip in [2380] which it is anchored, through ten clips, and then the wire leaves the outer periphery of the collar at a sidewise angle.

Q. (By Mr. L. E. Lyon): Well, may it be properly said that the wires extend at a sidewise angle from the collar? A. That is what——

(Testimony of Bruce Barkis.)

Mr. Scofield: Objected to as leading.

The Court: Overruled.

A. That is what I believe I testified to; that is what it means. That is correct.

Q. (By Mr. L. E. Lyon): Do you still use and have you at any time abandoned the use of a sidewise extending wire from the collar of a scratcher? Do you still use it?

A. Yes, we do. We still offer the identical body form of this wall-cleaning guide to the trade right now.

The Court: By "this one" you are referring to Exhibit?

The Witness: To Exhibit IIII.

The Court: Is that the correct designation of the wall-cleaning guide on the section?

Mr. L. E. Lyon: It is IIII, four I's, your Honor.

The Court: IIII.

Q. (By Mr. L. E. Lyon): And in the form in which you offer that it is illustrated by Exhibit 104 is that correct?

A. Yes. That is what I referred to when I said "the same body form is offered to the trade right now." That scratcher is. [2381]

Q. The wires in Exhibit 104, are they sidewise

A. The same forming exists in Exhibit 104 that exists in Exhibit IIII. The wires come through from the holding clip under 10 clips and then leave the collar at a sidewise angle and then extend into their outer form.

Q. You have sold the form of scratcher of Exhibit 104 for how many years now?

(Testimony of Bruce Barkis.)

A. 13 years.

Q. Are you still selling it? A. Yes, we are.

Q. In large quantities?

A. In reasonably large quantities.

Q. One of the orders going through the Houston shop when we were in Houston was drawn to my attention, was for how many wall-cleaning guides in one order?

A. My recollection is that that shipment covered 210 scratchers, 200 of this form.

Q. Of the form of Exhibit 101?

A. 104.

Q. 104. And that was in May of 1953, was it?

A. That is right. [2382]

* * *

Q. (By Mr. L. E. Lyon): Mr. Barkis, I hand you Exhibit DQ and refer you to the designation, to the well designated as "Well No. Goldsmith #598-56." What does "56" mean there?

A. The Goldsmith property of Gulf Oil Corporation is very large. "56" refers to the block number.

Q. Are there more than one well No. 598 in the Goldsmith lease?

A. There is no question in my mind but what this is the well that refers to the photographs of the exhibits.

Q. Just answer the question.

A. I don't know of any other Well No. 598 in the Goldsmith pool, in any of the block numbers.

(Testimony of Bruce Barkis.)

It is my recollection that this is a large block. The date of delivery is shown here as being August 31, 1950.

Q. I notice that this list of exhibits, DP-1 to DP-4, and DQ, are all directed to the Goldsmith lease sales, and in all cases except DP-1 have after them "56." Is there any explainable reason for that elimination of "56" from that invoice?

A. None that I know of. It is a clerical omission, I am sure.

Q. You were present, you have testified, at the March, 1940, A.P.I. meeting held at the Biltmore Hotel when Mr. Jones read the report; at the conclusion of that report was there any discussion, did you have any discussion with anyone? [2383]

A. Well, following the usual practice there was some prepared discussion of the Jones-Berdine paper, I recall. It wasn't any lengthy discussion. I believe there were one or two questions from the floor, but the presentation had been so complete and thorough that there wasn't any lengthy discussion.

Q. Did you have any discussion with reference to the report with anyone that you personally knew who was present at that meeting, do you recall?

A. Yes. I recall after the meeting, A. H. Bell, Ham Bell, who was with the Continental Oil Company at that time and is now a drilling contractor in Southern California, came to me, and I had known him and had a long acquaintance with him, and he said, "Bruce, you sent me a copy of your

(Testimony of Bruce Barkis.)

Bulletin No. 101 some time ago, a few days ago," and he said, "At that time I did not attach any significance, great significance to it, so I threw it away. And now," he said, "that I have heard Jones read his paper, I can see that it is important," and he said, "I wish you would send me some more copies of that Bulletin No. 101."

That was one discussion I recall.

Q. Any others that you can now recall?

A. Well, I would say that there was great interest in the paper, and following the meeting, in the corridor, there was just general discussion with some of the people that were there and knew that Mr. Wright and I were associated and had [2384] formed B & W, Incorporated, and had been working on this cementing problem.

That is about all I can recollect.

Q. Now, you have testified with reference to your contacts with the Shell Oil Company and the Gulf. Would you tell us with reference to your contacts with the Standard Oil Company of California, Mr. Barkis, and Mr. Toussaint?

A. In 1947, there was another A.P.I. meeting similar to the one that Jones had read his paper at in 1940. It was the Pacific Coast District of the Division of Production, the same, a portion of the American Petroleum Institute. And Jules E. Toussaint is one of the head men of Standard Oil Company, and he contacted Mr. Wright and I and told us that—well, we discussed cementing and he inquired about the patent situation, and we told

(Testimony of Bruce Barkis.)

him that we had patents at issue, and he inquired about the contract that the Weatherford Spring Company was operating under, and then suggested in fact, he asked, requested that we send information to him at San Francisco, and that was done. That was in 1947.

Q. Did you have any other contacts with the Standard Oil Company?

A. To my recollection, and I have thought about it, I can't think of anybody else in the Standard Oil Company that I have ever discussed patents with.

Q. What was your purpose of discussing patents with Mr. [2385] Toussaint?

A. Well, it was an outcome of his inquiry, I would say. He mentioned the Weatherford Spring Company advertising that had just been released a few months before that.

Q. What advertising do you refer to?

A. I am referring again to that Exhibit L, that white catalog. That is the one that brought out a lot of inquiry about patents.

Q. And that is the one which has the Wright Patent No. '317 under the figure of a scratcher, is that the one you are referring to?

A. That is correct. That is the one that generated a lot of discussion or inquiries about patents.

Q. Now, will you tell me as to any contacts which you had with the California Company?

A. The California Company is, according to my

(Testimony of Bruce Barkis.)

understanding, a wholly owned subsidiary of the Standard Oil Company of California. It operates in the Louisiana Gulf coast and in the Rocky Mountains, and the head man of that company is Tom Flood. I have called on him. Deupree is the next man in charge of operations, and the chief engineer is a man by the name of Earl Kipp. I have talked to all of them, but to my recollection I have not discussed patents with any one of those three gentlemen.

Q. Where were they located, Mr. Barkis? [2386]

A. The headquarters of the California Company is at New Orleans, Louisiana.

Q. You say you have not discussed patents with any of those three individuals?

A. That is correct. I have approached them and asked them for their business and discussed the merits of our equipment with them, and the only man that I can recall that I mentioned patents to is a young engineer, a junior engineer by the name of Goerner.

Q. That is G-o-e-r-n-e-r?

A. That is correct. And on one trip to New Orleans——

Q. When was that?

A. In 1947, in the fall of 1947, I believe Mr. Stiles, who is sales manager for B & W on the Gulf coast, and I had gone to New Orleans together, and we went to the offices of the California Company and attempted to see Mr. Flood.

Q. Where were these offices?

(Testimony of Bruce Barkis.)

A. It is my recollection it was in the Canal Building at that time. Since then, they have built their own building, but I believe in 1947 their headquarters were in the Canal Building.

Q. All right.

A. And we attempted to see Mr. Flood, and the receptionist said that he was tied up, Mr. Deupree was also tied up, and Mr. Kipp was tied up. [2387]

And so we were finally sent in to Mr. Goerner's headquarters and that was on the same floor in the same general offices. And we talked to him for a short while and the subject of patents was mentioned.

Q. Just state the conversation as nearly as you can give it, then.

A. He stated that they were using some Weatherford equipment in their operations in Mississippi. The California Company was fairly active up there at that time. And he referred to the Weatherford formula, he referred to their catalog, and I pointed out to him and I said, "That is the scratcher there. The patent number under there is B and W's patent," and he was surprised.

And I then happened to have in my briefcase a copy of the patent number, and as proof showed him this soft copy of this Patent No. 2,374,317.

Q. Was there any other comment?

A. The general tone of the whole thing was that we were trying to get business from the California Company, and this was not the primary pur-

(Testimony of Bruce Barkis.)

pose behind the meeting. It was secondary, entirely, the discussion about patents.

I told Goerner that Mr. Toussaint had inquired about patents also, and that the matter had been referred by letter to him, and I told Goerner that the Standard Oil Company of California was using a considerable amount of our equipment, [2388] and he more or less—my impression was that he resented that, the parent company using the equipment, that, like happens sometimes with subsidiary companies, they would like to make up their own minds.

Q. Did you get any orders from the California Company as a result of this contact?

A. No. We did not.

Q. Now, did you have any other contact with the California Company or with any official or employees, at any time, where the subject of patents was discussed?

A. No. No other contacts. Any other contacts were purely of a sales nature.

Q. All right. Now, regarding The Texas Company, you have had certain contacts, I believe, with The Texas Company. When did those begin?

A. Well, The Texas Company is a large organization. It is my understanding that they have six major headquarters. Those would be at New Orleans, Houston, Tulsa, Los Angeles, Denver, and New York. We sold equipment to The Texas Company. Very soon after we started in business, Mr. Wright and I interested them in the wall-cleaning

(Testimony of Bruce Barkis.)

guide, and they have been, I would say, consistent customers right along through over the years.

As far as patents and discussion of patents with The Texas Company, in the Houston office one of their divisional [2389] superintendents was a man by the name of Kneale, K-n-e-a-l-e, and he inquired about patents.

Q. When was this?

A. My recollection is that it was in 1948 or 1949.

Q. Where?

A. In Houston, Texas, in his office in Houston.

Q. And who was present?

A. Just he and I, just Mr. Kneale and myself.

Q. What was said?

A. Mr. Kneale told me that Mr. J. E. Hall, Sr., had been in his office and had told him that he had claims allowed on his patent application relating to his scratcher being rotatable, tangential, and slidable. I remember those three terms. [2390]

* * *

Q. (By Mr. L. E. Lyon): Proceed.

A. Mr. Kneale answered me—I might continue—he also said that Mr. Hall, Sr., had told him that the Multiflex scratcher was an infringement of some of the claims that had been allowed in the patent application to him and that the continued use by The Texas Company of the B and W Multiflex scratcher was an infringement of a patent that he was going to get.

Mr. Kneale is an operating man and my concern

(Testimony of Bruce Barkis.)

was to satisfy him that that was not the case, so that he would not stop the usage of our equipment. We discussed it. I told him that B and W owned patents and that I was sure that his patent department was familiar with the situation, I understood that Mr. Caughey, who was our counsel at that time, had been in touch with the patent department of The Texas Company, and he advised me that he had no stop order against the use of our equipment.

And that was about the extent of the discussion.

Q. All right. Did you discuss patents with any other officer or employee of The Texas Company at any time?

A. One other occasion that I recall was that Mr. Keyes made a similar inquiry.

Q. Where was Mr. Keyes located?

A. Robert L. Keyes.

Q. Where was he located? [2391]

A. He at that time was divisional manager of the Louisiana Gulf coast division, in New Orleans, and that is where I contacted him.

Q. When?

A. He is now president of the Arabian-American Oil Company in Saudi Arabia.

Q. When did you contact Mr. Keyes?

A. It also was in the fall of 1947.

Q. All right.

A. And his inquiry was very similar to Mr. Kneale's inquiry as to what the status of the patent situation was between B and W, Incorporated, and

(Testimony of Bruce Barkis.)

Weatherford Spring Company. I gave him similar information that I gave to Mr. Kneale, and that was about the extent of that contact.

Q. Did you have any other contact with anybody of The Texas Company?

A. One other contact I recall was with Mr. Ellzey of The Texas Company at Tulsa, in the Tulsa divisional office.

Q. How is that spelled?

A. E-l-l-z-e-y—and he told me that he had referred the question of patents to their patent counsel and that they had been instructed to continue the usage of B and W and also Weatherford equipment, and he was resting on the advice of the patent department of The Texas Company.

Q. Did Mr. Ellzey state how the patent question was [2392] presented to him or how it came to his attention?

A. Yes, that it had been brought up by this same advertising and the fact that somebody in the Tulsa divisional office was of the impression that Weatherford Spring Company or J. E. Hall, Sr., had had a patent at issue as shown by their catalog, and that generated the inquiry.

Q. Did you have any other conversation at any time with any member of The Texas Company with reference to patents?

A. I can't recall any other contacts concerning patents.

Q. Mr. Barkis, you have certain salesmen out.

(Testimony of Bruce Barkis.)

Do you give the salesmen any instructions on selling?

A. We surely do, and one of the firm instructions is not to mention the patent situation because, as I have stated before, it is very poor sales policy, sales material.

Q. And how long has that been your policy and how long has that been your idea and your practice?

A. Since there has been any discussion between Weatherford Spring Company and ourselves.

Q. All right.

A. That doesn't mean, Mr. Lyon, that—These men have been asked questions, the same as I have been asked questions, but there is only one man in the organization that has any information and that is not extensive. It is only enough so that he can answer an inquiry and to refer it, with the instruction to refer it to the legal department of the [2393] company or to refer it to your office.

Q. Now, how about the Amerada Petroleum Corporation? Have you had any contacts with them?

A. Yes. Amerada Petroleum Corporation headquarters are in Tulsa, Oklahoma, and one of their operations men in 1948 was Arnold, who is now in North Dakota, and he made an inquiry of Mr. Charley Millikin, who is the chief engineer of Amerada Petroleum, and I have known him for years. Mr. Millikin inquired of me what the patent situation was between the Weatherford Spring Com-

(Testimony of Bruce Barkis.)

pany and ourselves, and I followed the same pattern of telling him that we owned patents, that there was a contract of 1944 between J. E. Hall, Sr., and B and W, Incorporated, and that to my knowledge there was no patent at issue to J. E. Hall, Sr., on a scratcher. [2394]

It was not a lengthy discussion. It was more or less a casual inquiry, is my impression.

Q. Now, did you contact any other member, officer or employee of the Amerada Petroleum Company at any time or have any conversation with him with reference to patents?

A. No; I had no discussion with any other personnel of Amerada Petroleum about patents. I contacted many of them on sales contacts but have not discussed patents.

Q. How about the Union Producing Company? Did you have any conversations with that company?

A. Yes. Yes; over the years I have had a lot of discussions with them.

Q. Have you had any discussions with them concerning patents?

A. In 1948 Mr. Somner and I contacted Mr. Quigles. He is the head man of the operating department of Union Producing Company. They headquarter at Shreveport, Louisiana, have their own building, and it was in Mr. Quigles' office that Mr. Somner and I contacted him. There were just the three of us there. And Mr. Quigles inquired about patents, but his main concern was that he didn't want to get tangled up in any litigation and

(Testimony of Bruce Barkis.)

didn't want to get his company, as he said, in a mess. He referred us to his engineer, Dowd, Bert Dowd, and told us to tell Dowd what the situation was.

Q. When was this? [2395]

A. This was in 1948.

Q. Where?

A. In the same office building with the Union Producing Company in Shreveport, Louisiana.

Q. Who was present?

A. There was just Bert Dowd, W. L. Somner and myself.

Q. All right.

A. And we told Dowd of Mr. Quigles' instructions and we gave him the same information I have testified to; that we owned patents; we were trying to interest them primarily in the usage of our new centralizer and Multiflex scratcher. I asked them for their business or part of their business, and that was about the extent of that contact.

Q. Did you have any other contact with any officer or employee of the Union Producing with reference to these scratchers or patents?

A. Since last year, in 1952, I met Mr. Fiser and he——

Q. Is that the first time you have ever met Mr. Fiser? A. Yes; to my recollection it was.

Q. Who is Mr. Fiser?

A. Mr. Fiser is now legal counsel for the Union Producing Company and headquarters at Shreveport, Louisiana.

(Testimony of Bruce Barkis.)

Q. You met him in 1952? A. Yes.

Q. Where? [2396]

A. In his office in the Union Producing Building at Shreveport.

Q. Who was present?

A. Mr. F. F. Lewis, who is the owner of Hub Supply Company, and I called on Mr. Fiser. The three of us were present. And his inquiry was: "How are you getting along," and we said, "Well, it don't seem that we are making much headway," and it was not any discussion of patents. It was more the inquiry as to how this litigation in this action here was progressing.

Q. Any other conversation had with Mr. Fiser at any time? A. No; I don't recall of any.

Q. Did you know a Mr. Edwards with the Union Producing Company?

A. Mr. Edwards is an attorney connected with the firm of Vinson, Elkins, Weems & Francis in Houston. And after the Lake Charles suit, or particularly the New Orleans decision in the Court of Appeals, the Union Producing Company had stopped using all B & W equipment and I called on Mr. Edwards to try to convince him that B & W straight-bow centralizer was not involved in any litigation whatsoever and trying to get him to get some sort of a clearance through so that Union Producing Company could use B & W straight-bow centralizers. It is my understanding Mr. Quigles all B & W equipment at that time.

(Testimony of Bruce Barkis.)

Q. Did that include scratchers?

A. It included all B & W equipment. And for quite a long while, my understanding, Union Producing Company did not use any scratchers in their cementing operations.

Q. Anybody's scratchers?

A. Anybody's scratchers.

Q. Do you know whether that condition still exists?

A. Just recently they appointed a cementing committee——

Q. Now, what do you mean by "recently"?

A. Within the last six months—and that committee has studied the usage of scratchers and centralizers by all other companies and has made certain recommendations to the field department or the production department, and they have started within the last few months, two or three months, of using some scratchers. I don't know just how extensive it is.

Q. I believe you have already testified with respect to your contact with the Gulf Oil Company in the United States. Have you ever contacted any official or employee of the Canadian Gulf Oil Companies?

A. No, I never have. I don't know anybody in the company.

Q. To your knowledge, has any person in B & W ever discussed with any official of the Canadian Gulf Oil Company [2398] any question of patents?

(Testimony of Bruce Barkis.)

A. No, definitely nobody has discussed with any official of Canadian Gulf patents.

Q. Is that true of any employee of the Canadian Gulf?

A. I am sure that I haven't. I will testify to that. It is my impression that Mr. Wright has not contacted anybody, but definitely I have not.

Q. Now, Mr. Barkis, when this so-called \$2.50 royalty letter hit the field did it have any effect on your business? A. It sure did.

The Court: That is Exhibit?

Mr. L. E. Lyon: That is just what I was going to get, your Honor.

The Court: JJJ, the clerk tells me.

Mr. L. E. Lyon: JJJ. If you will hand it to me?

The Court: Letter of January 12, 1952?

Mr. L. E. Lyon: Yes, your Honor.

The Court: By Mr. Scofield.

Mr. L. E. Lyon: Yes.

Q. I hand you a letter marked Exhibit JJJ—and which, incidentally, on the one that is in evidence, your Honor, the list is wrong. It is dated January 18th, and not January 12th as set forth in the list, but they were sent out on both dates.

I hand you Exhibit JJJ and will ask you if that is what [2399] you understood I was referring to when I referred to the \$2.50 royalty letter?

A. Yes, this is the \$2.50 royalty letter.

Q. You stated that that had an effect upon your business. What was that effect?

(Testimony of Bruce Barkis.)

Mr. Scofield: Now, if your Honor please, if this witness is going to testify with regard to the effect that this may have had on the sales, of course we are going to ask that these sales records, besides the companies that we now have asked for, be made available so that we can determine for ourselves just what the effect was upon any companies that he testifies about.

* * *

A. As soon as this letter, which the record shows was widely circulated, was received by oil companies and supply companies it started a chain of telephone calls, [2400] inquiries and demands for letters of indemnification. A whole chain of events came about as soon as this letter was released.

Q. (By Mr. L. E. Lyon): Did it result in the total stoppage of sales to certain companies, certain supply companies?

* * *

A. Yes. I believe there is in evidence here correspondence showing that certain companies such as Continental Supply Company, Jones & Laughlin Supply Company, Bethlehem Supply Company, all very large suppliers, very large customers of ours, had advised their field force not to purchase any B & W Multiflex or Nu-Coil scratchers, as set out in the Scofield letter of January 12th, Exhibit JJJ.

Q. (By Mr. L. E. Lyon): You say that correspondence is in evidence or has been offered. I believe that you are familiar with this exhibit list.

(Testimony of Bruce Barkis.)

Maybe it would save time if you would look at it and tell me which letters you had in mind.

A. One exhibit number is SSS. It refers to the Continental Supply Company. RRR, QQQ, PPP, OOO, I believe NNN, MMM—from KKK on to SSS. [2401]

Q. All the way from KKK to SSS, is that it?

A. I believe that is it.

Mr. L. E. Lyon: It goes further than that, doesn't it? VVV, WWW, XXX, YYY—no, not YYY. It goes through to VVV, and AAAA.

The Court: Would not CCCC be included in that order?

Mr. L. E. Lyon: Three-C's?

The Court: Four-C's.

The Witness: Four-C's.

Mr. L. E. Lyon: Yes. I want CCCC, BBBB, and AAAA also. I will start out.

Q. I will hand you Exhibit KKK and will ask you if you can identify that letter; if so, state what it is?

A. This is a letter of the Bethlehem Steel Corporation, or as commonly known, Bethlehem Supply Company, dated February 26, 1952, signed by Mr. W. B. Cotton of the Tulsa office, and addressed to store managers, district managers, division managers, resident managers, representatives, department heads, on the subject of B & W, Inc. This is the——

Q. Would you classify this as a stop order to

(Testimony of Bruce Barkis.)

stop purchasing Multiflex and Nu-Coil scratchers from B & W? A. Yes, it was. It is the——

Q. What date was it issued?

A. The stop order that was sent out generally by the Bethlehem Supply Company on February 26, 1952, to all of [2402] their stores against any further purchase of B & W Nu-Coil and Multiflex scratchers.

Q. And now I hand you Exhibit LLL. Can you tell me what that is? This letter refers to a telephone conversation had with reference to this \$2.50 royalty demand letter and makes some kind of a request of B & W. What was that request, do you know?

A. This letter of Bethlehem Supply Company dated January 22, 1952, which would be just after their receipt of the Scofield \$2.50 demand letter. It is addressed to the attention of Mr. K. A. Wright, was received at the Long Beach office, and it is a typical letter of inquiry from corporations as to what the status of the situation is, and giving us 24 hours' notice to take some action on it.

Q. Did you endeavor to do anything—I mean by “you” B & W, endeavor to do anything within that 24-hour notice as stated by Bethlehem Steel Company?

A. Yes. As I say, this is a typical letter. It was not only from Bethlehem Supply Company, it was from hundreds of companies that we had, and all dropped in at the same day or within a few days of each other, and each company was concerned

(Testimony of Bruce Barkis.)

about their liability in purchasing equipment from us and selling it on to some oil company, and demanding letters of indemnity and demanding assurance that they would not be involved in [2403] litigation.

Q. In endeavoring to satisfy the Bethlehem Supply Company what did you do, if anything?

A. A general pattern developed from this thing. We would contact your office, a letter of indemnification would be prepared, that letter would be sent to the company, to the Bethlehem Supply Company. And most of them were reasonable enough to say: "Well, we will wait until we hear from your legal counsel." And that letter of indemnification would generally be accompanied with a letter of transmittal from your office.

Q. I hand you a copy of Exhibit AAAA and ask you if that is the form of letter of indemnification that was sent to all of the companies from whom you received inquiries with reference to the Scofield \$2.50 royalty demand letter?

A. Exhibit AAAA is the letter of indemnification from the Anderson-Pritchard Oil Corporation at Oklahoma City, Oklahoma.

Mr. Scofield: What is the date?

A. Of February 6, 1952, and is the form of letter sent out as developed by your office, and sent out to the people that demanded a letter of indemnification.

Q. (By Mr. L. E. Lyon): The same letter was sent out to all parties, was it?

A. The same letter was sent out to all parties.

(Testimony of Bruce Barkis.)

Q. The only difference being in the [2404] addressee? A. That is correct.

Q. I hand you a list of Exhibit BBBB and ask you what that list is, if you know?

A. This list is headed: "List of companies to whom indemnity letters were sent" by your office, and on receipt of correspondence from Houston or from our Long Beach office which was forwarded to your office for handling; and that is what Exhibit BBBB covers.

Q. You signed all of the letters of indemnification yourself, didn't you, Mr. Barkis?

A. I signed a great many of them, but I am of the opinion that Mr. Wright also signed some of the letters of indemnification, too, and particularly for the West Coast.

Mr. L. E. Lyon: May it be stipulated that this list, Exhibit BBBB, is a partial list of the companies to whom such letters of indemnification were sent? I will state that this list was prepared by my secretary who wrote all the letters.

Mr. Scofield: Yes, that can be stipulated.

The Court: That is in evidence, is it not?

Mr. L. E. Lyon: Yes, your Honor. They are all in evidence. All of these letters are in evidence, but I believe that they require some explanation.

Mr. Scofield: Can't we have on this list some place indicated the date when these letters were sent out?

Mr. L. E. Lyon: All the letters were sent out

(Testimony of Bruce Barkis.)

during the [2405] month of January or February, 1952, as far as I know.

The Court: So stipulated?

Mr. Scofield: Yes, sir.

The Court: You are referring to the letters sent to the persons listed on Exhibit——

Mr. Scofield: BBBB.

The Court: ——BBBB.

Q. (By Mr. L. E. Lyon): You sent such letter of indemnification as is shown by Exhibit AAAA to the Bethlehem Supply Company. Did they accept the letter and start purchasing?

A. No, they did not.

Q. To your knowledge, have they ever withdrawn the stop order as shown by Exhibit KKK stopping the purchase of both your Nu-Coil and Multiflex scratchers?

A. No. I called on Bethlehem Supply Corporation or Supply Company at Tulsa.

Q. When?

A. In 1952, following this letter. We had furnished them with a letter of indemnification and it was not for some time before I found out that they had not lifted this stop order of Exhibit KKK.

Q. As far as you know, is it still outstanding?

A. It is my recollection that the stop order still exists against the purchase of our equipment.

Q. Prior to this date of receipt—I mean prior to [2406] the date of Exhibit KKK, which is February 26, 1952, was Bethlehem Supply Company a

(Testimony of Bruce Barkis.)

steady customer of B & W in Multiflex and Nu-Coil scratchers?

A. Yes, they had been ever since the equipment was released, why, they have been, I would say, very large customers.

Q. What do you mean by very large customers?

A. Do you mean in dollar volume?

Q. In dollar volume.

A. I believe a good estimate would be \$4,000 a month.

Q. Now, I hand you Exhibits MMM, NNN, OOO, and ask you if you are familiar with these exhibits, and if you will state what they are and the substance of any contacts that you had with this company with reference to this correspondence or any part of it?

A. Exhibit MMM is a letter from Jones & Laughlin Supply Company of February 14, 1952, signed by Farwell, purchasing agent, and it is a letter of inquiry addressed to B & W, Inc., at Long Beach, California; and this letter includes mention that they have received the \$2.50 royalty demand from Scofield and it acknowledges receipt of our letter of January 21, 1952, which included our letter of indemnification; and then it states that their attorney, after giving it consideration, decided that it is not acceptable, and they suggest withholding "\$2.50 for each scratcher shipped and billed us until the matter is settled, or as an [2407] alternative that you give us a bond to protect us on this

(Testimony of Bruce Barkis.)

claim for royalty." Following the receipt of this letter——

Q. Do you know where that suggestion that you post a bond came from? A. No, I do not.

Q. Go ahead.

A. Of course, the suggestion that a bond be posted is included in this letter here.

The Court: Exhibit?

The Witness: MMM.

Mr. L. E. Lyon: Go ahead.

A. Following this letter I contacted Mr. Farwell at Tulsa, personally, and went to his office and discussed it with him and reported to him that all other companies had accepted our letter of indemnification. And he said that they were not willing to accept that. The legal advice was that the letter would not satisfy their liability, and we were unable to satisfy them. So on March 3, 1952, as shown in Exhibit OOO, a letter circular No. S-576, on the subject: "B & W, Inc., 'Nu-Coil' and 'Multiflex' scratchers" was addressed by Mr. Farwell to their district sales managers, district office managers, local store managers, salesmen—general products.

Shall I read this letter? [2408]

Q. It is not necessary to read it. What does it constitute?

A. It is a stop order on their further purchase or handling of B and W Nu-Coil and Multiflex scratchers until further notice.

Q. Now, is that stop order, to your knowledge, still in existence?

A. No, sir. That stop order was recently lifted.

(Testimony of Bruce Barkis.)

Q. What do you mean by "recently"?

A. On August 5, 1953, in Circular Letter S-618, on the same subject and addressed to the same people, it says, "Supplementing Circular Letter S-576," which is Exhibit OOO, and I am reading from Exhibit NNN, "dated March 3, 1952, from Mr. W. J. Farwell, it will now be satisfactory to sell B & W, Inc., 'Nu-Coil' and 'Multiflex' Scratchers. Very truly yours, A. G. Bastian, Sales Manager—General Products."

Q. And prior to the stop order, Exhibit OOO, was Jones & Laughlin a customer of B and W in the purchase of Nu-Coil and Multiflex scratchers?

A. Yes. They sold B and W Nu-Coil and Multiflex scratchers.

Q. Were they a large or a small [2409] customer?

* * *

A. Jones & Laughlin Supply Company is a large company. They have a lot of field stores and well represented, and we look at them as a fairly large handler and supplier of our equipment. I don't think that they would handle or sell quite as much as Bethlehem Supply Company.

Q. (By Mr. L. E. Lyon): You say that stop order, Exhibit OOO, has been lifted, and I presume that you are again selling to Jones & Laughlin at the present time, is that correct?

A. Yes, we are.

Q. In each of these cases, of the Bethlehem Supply Company and Jones & Laughlin, did you send to those companies a copy of the injunction

(Testimony of Bruce Barkis.)

issued by this court against the circulation of this \$2.50 royalty letter? A. Yes. We surely did.

Q. Did you have any reason to discuss with the officials of these companies the effect of that injunction?

A. I recall discussing with Mr. Brown, who is the legal counsel for Bethlehem Supply Company at Tulsa, that the injunction had been handed down, and he was making inquiry about the entire situation and I told him that it was my understanding under this injunction that if that were done, [2410] that all of the facts had to be made available to him, and for that reason I would prefer that he contact your office here or at Houston, and so advised you.

Q. So far as you know, that injunction had no effect whatsoever upon re-establishing any relations between you and the Bethlehem Supply Company?

Mr. Scofield: That is objected to.

A. No, it did not.

Q. (By Mr. L. E. Lyon): Is the same true with respect to Jones & Laughlin during the time preceding August 5, 1953? A. That is true.

Q. Now, Mr. Barkis, I hand to you some further correspondence, being the correspondence had with Continental Supply Company and beginning with Exhibit PPP, dated January 24, 1950, to and including a letter of March 3, 1953, Exhibit RRR; a letter of March 4, 1952, addressed to you by the Continental Supply Company, Exhibit QQQ, and a letter, Exhibit SSS, addressed to B and W, Hous-

(Testimony of Bruce Barkis.)

ton, Texas, and written for the Continental Supply Company by some individual stated to be their attorney, and ask you if you are familiar with this correspondence and, if so, if you will state what it is, and if you had any contact personally with this company, kindly relate that contact and the conversation, where it took place, when, and who were present.

A. The Continental Supply Company is also a very large [2411] supplier of oil-field equipment and has headquarters in the Continental Building at Dallas, Texas. I have discussed this situation with Mr. Swanson, who is one of the executives of that company; Mr. Schmid, who is their purchasing agent, and also one discussion where Mr. Bailey was present. This was not all in one meeting. There were several meetings.

The Continental Supply Company was patterned with most of the companies who received the Scofield letter of January 12th and contacted B and W, Incorporated. This letter was addressed to B and W, Incorporated, Long Beach, California. It is Exhibit PPP. It is dated January 24, 1952, and is signed by Mr. Bailey, their attorney.

Q. Yes.

A. It attached a copy of the Scofield letter dated January 17, 1952, and makes inquiry as to what B and W proposes to do about relieving Continental Supply Company of any liability under this demand.

Q. Yes. Before you could reply to that letter. I believe the stop order was issued, wasn't it?

(Testimony of Bruce Barkis.)

A. That is Exhibit RRR.

Q. And what does that stop order provide?

A. The Continental Supply Company, in a letter dated March 3, 1952, addressed to their store managers, district offices, district managers and assistant district managers, placed a stop order, instructed all personnel to discontinue [2412] the sale of all scratchers, all scratchers manufactured by B and W, Incorporated. I interpret that to mean of all cleaning guides, rotating scratchers, and all scratchers.

Q. Subsequently what was done, did they stop purchasing wall-cleaning guides, rotating scratchers, as well as Nu-Coil and Multiflex scratchers from you?

A. Yes, that is correct.

Q. All right. Now, what further transpired with reference to the Continental Supply Company?

A. I had contacted Continental Supply Company and it is my recollection that they had been furnished a letter of indemnification but were not content, and it is my recollection that at that meeting that is when Mr. Swanson and Mr. Bailey and I had discussed the situation.

Mr. Scofield: When was that with regard to the stop order or with regard to the letter of January 12th?

The Witness: Well, it was between naturally January 12th and when the stop order was——

Q. (By Mr. L. E. Lyon): March 3, 1952——

A. Yes.

Q. ——was the stop order. A. Yes

Q. Where did that take place?

(Testimony of Bruce Barkis.)

A. That was in Mr. Swanson's office at Dallas, Texas, in the Continental Building. The three of us were there [2413] present. Mr. Bailey was concerned about the letter of the Continental Supply Company and not willing to accept our letter of indemnification.

Q. Had you sent the Continental Supply Company a copy of this court's injunction of January 26, 1952?

A. That had been done, and also the letter of indemnification and the letter of transmittal. I believe their name would be listed on this.

Q. Exhibit BBB.

Now, I hand to you Exhibit UUU and ask you if that is a true copy of the letter of transmittal by which a copy of the injunction of January 26, 1952, was sent out by B and W to all parties?

A. Yes, it is. This is a form of letter of transmittal that was sent and the photostatic copy of the court order. This was the mailing that was made to all the companies that were on that list.

Q. And is it your testimony that you used a photostatic copy of the injunction in all cases?

A. Yes, we did. We made a photostatic copy of the court order.

Q. Of January 26, 1952?

A. That is correct.

Q. Now, proceed. Was there any further contact that you had? I wanted to ask you and I did ask you if this [2414] conversation you had was after you had sent the Continental Supply Com-

(Testimony of Bruce Barkis.)

pany a copy of the injunction of January 26, 1952. Was it?

A. Yes, it was. It was after that had been sent to them, and it is my recollection before the stop order had been issued.

Q. That injunction did not result, then, in the holding up of this stop order of March 3, 1952. Is that your testimony? A. That is correct.

Q. Now, you were testifying to conversation you had. Now, have you repeated it fully, that conversation?

A. Yes, that is my full recollection of what transpired.

Q. Have you had any other contacts with Continental Supply Company with reference to this cease-and-desist order?

A. This letter here, this letter of March 4th, Exhibit QQQ, refers to it. It is addressed to me at Houston:

“You will recall that when here last week”——
that is right——

“We advised you that we would have a further conference within our own organization”——

that refers to the meeting that we had had before, when Mr. Bailey was present, and is acknowledgment of that meeting—and continuing,

“After full consideration of the matter, we [2415] have decided it to be to our best interest in this situation to refrain from the purchase of these scratchers until such time as the present patent

(Testimony of Bruce Barkis.)

litigation in Los Angeles is terminated and the rights of the parties to that suit are finally determined. Our field personnel is being notified accordingly."

Q. And does that stop order, that order as set forth in that letter and at the meeting as stated in Exhibit QQQ, still stand as far as Continental Supply Company is concerned?

A. I have no information that they have lifted that stop order. I recall that a letter was written from your office just before, asking information on this, and if I could refresh my memory with that——

Q. You mean the letter that I wrote asking if that stop order was still in effect?

A. Yes. It seems that letter was written——

Q. I hand you a copy of a letter, Mr. Barkis, and I ask that it be marked for identification as defendants' exhibit next in order.

The Clerk: Exhibit DS.

(The document referred to was marked Defendants' Exhibit DS for identification.)

Q. (By Mr. L. E. Lyon): I will ask you if that is the letter that you referred to that was addressed to me by the Continental Supply Company? [2416]

A. Yes, that is correct. This letter is from the Continental Supply Company, dated October 21, 1953—Exhibit DS.

Q. And it merely states that they declined to tell me whether it is or is not in effect, isn't that it,

(Testimony of Bruce Barkis.)

Mr. Barkis? A. That is correct.

Q. You might read the whole letter.

A. (Reading.)

“In reply to Mr. Lewis E. Brown’s request by letter dated October 15, for the furnishing to your firm of copies of all field instructions and correspondence regarding purchase or sale of B and W Multiflex and Nu-Coil Scratchers. The material requested is, of course, intra-company business and for this reason we do not care to voluntarily furnish it to anyone outside the organization.

“Regretting our inability to comply with the request but trusting you will appreciate our position in the situation, we remain, yours very truly, The Continental Supply Company.”

It is signed by Mr. Bailey, attorney.

Q. And that letter is addressed to “Lyon & Lyon, Patent Attorneys, 811 West Seventh Street, Los Angeles 17, California,” in re B and W Incorporated, is it? A. That is correct. [2417]

Mr. L. E. Lyon: My signature must be awful.

I will offer the letter as identified here in evidence as Defendants’ Exhibit DS.

Mr. Scofield: No objection.

The Court: It is received in evidence. [2418]

* * *

Mr. L. E. Lyon: I requested, Mr. Scofield, from you certain letters sending out lists of claims that were allowed on these applications. You said you would be able to produce them, not that day, but

(Testimony of Bruce Barkis.)

you would see if you could produce them. Have you those letters?

Mr. Scofield: I have looked in the file of the case [2421] and I find no letters sent to Mr. Hall, neither John Hall nor to anybody in the Hall family, or that had anything to do with the prosecution of that case.

Mr. L. E. Lyon: Then you are totally unable to explain how Mr. John Hall got lists of the claims that he was handing out or showing to customers, as he testified; is that correct?

Mr. Scofield: I think he probably got them from my office, but they were not sent by us. Mr. Hall must have had them. [2422]

* * *

Q. (By Mr. L. E. Lyon): Mr. Barkis, when you identified Exhibits IIII and CF did you take into consideration in your identification the fact that Exhibit CF is threaded together, as I am here demonstrating by taking it apart, so that Exhibit IIII may be removed from the simulated casing?

A. Yes, I did. I was aware that this was a replica and was familiar with the fact that it was the only practical way to get the scratcher mounted on the casing between the lugs.

Q. You mean in this replica?

A. In this replica.

Q. Was there any such threaded connection used in the Jones & Berdine tests? [2423]

A. Definitely not. It was three and one-half inch casing, just steel casing, and this is aluminum

(Testimony of Bruce Barkis.)

tubing here to simulate the three and one-half steel casing.

Q. The only reason that this threaded connection is made in CF is for a matter of convenience in handling the exhibit, is that correct?

A. That is correct; and in order to mount the scratcher between the lugs.

Q. All right. You have stated that what was used by Jones & Berdine was a three and one-half inch casing. Was that an actual casing size as used in oil wells?

A. Yes, it is an actual casing size on the small side.

Q. All right.

A. But there is three and one-half inch casing used in oil well drilling.

Q. Was the scratcher which is exhibited in Figure 26 in the Jones & Berdine report, and also those in Exhibits (Figures) 14 and 18, actually suitable for running in an oil well? A. Yes, they are.

Q. They function correctly in an oil well?

A. They would get the job done.

Q. Just any different than your wall-cleaning guide gets the job done?

A. No, there would be no difference, except in the action of the wires on the wall of the [2424] hole.

Q. What difference would there be there? And I mean between Figure 26 of the Jones & Berdine report and your wall-cleaning guide?

A. The wall-cleaning guide has an upturned end

(Testimony of Bruce Barkis.)

and in running in the hole does not disturb the mud cake. The scratching is on the upstroke of the casing. When the point of the scratcher is in engagement with the wall of the well, this device here scratches——

Q. You mean Exhibit IIII?

A. Exhibit IIII scratches on the upstroke and on the downstroke.

The Court: Is it intended that Exhibit IIII should be rotated to do the scratching or is it intended to do the scratching on the up and down stroke, or both?

The Witness: The Exhibit IIII is rotatably mounted on the casing and in the casing moving up and down the travel of the scratcher is in a vertical plane. It does not rotate. The scratcher does not rotate during the travel of the casing.

The Court: There is no rotation of the casing to effect any scratching?

The Witness: No, sir.

Q. (By Mr. L. E. Lyon): Now, explain to the court, Mr. Barkis, when this scratcher rotates on the casing? A. When the casing is raised——

Q. Let us start in this position, Mr. Barkis: The [2425] casing is being lowered into the hole; will the scratcher ring or collar then be engaged with the upper lugs, or won't it?

A. That is correct.

Q. What happens when you get to the end of the lowering and start to come up? Just demonstrate that.

(Testimony of Bruce Barkis.)

A. The ends of the wires are in engagement with the wall of the well.

The Court: That means the scratcher will be pushed down against the lower lug?

The Witness: No, sir. As the casing is lowered in the well the scratcher is in engagement with the upper lug and the wires are in contact with the well bore. Then when the bottom of the stroke is reached the casing raises through the scratcher and the wires are in engagement with the wall of the well bore and hold the scratcher in position until the lower part of the scratcher collar engages the lower lugs, and then the wires change their upward position to a downwardly pointing direction, and that is the point of reversal of the scratcher wires. [2426]

Q. (By Mr. L. E. Lyon): What happens during the reversal?

A. There is rotation of the collar, of the scratcher collar on the casing.

Q. Caused by what?

A. Caused by the forces, reversal forces, horizontal forces that act on the scratcher wire and push against the scratcher collar.

Q. Does the same thing take place at the upper end of the stroke when it is reversed and starts down again?

A. Yes. As the casing reaches the top of the stroke, the opposite action occurs, and the cement slurry is lowered through the scratcher collar, and the downwardly pointing wires reverse to an up-

(Testimony of Bruce Barkis.)

wardly pointing direction, and the same operation, rotation of the collar on the casing, occurs.

The Court: What is the length of that stroke?

The Witness: In the Jones Exhibit X, as I testified yesterday, it was 42 inches in his test apparatus.

The Court: Yes, but normally?

The Witness: Normally, in an oil well, it would vary from 8 feet to 40 feet.

The Court: And how many such strokes are to be undertaken in the average well?

The Witness: That varies.

The Court: In other words, how much scratching would be [2427] done?

The Witness: That varies with the operator.

The Court: And, I take it, with what the log shows as to the formations?

The Witness: What the log shows.

Q. (By Mr. L. E. Lyon): Over a range, Mr. Barkis, how many reciprocations occur, what is the range, minimum to maximum?

A. Oh, from 20 minutes to two hours. Some operators want to scratch that long. And a stroke is every two minutes up to a certain distance, 20 feet, and back down 20 feet, and that stroke would require, with the ordinary draw works, within a range of two minutes. So, for an hour, just assuming a circulating period of an hour, that would be 30 complete strokes up and down. So, assuming a 20-foot stroke, that would be 1200 feet the scratcher would travel, that is, during the mud-circulation

(Testimony of Bruce Barkis.)

period prior to putting the cement slurry into the well.

Q. Is it reciprocated also during that period of time? A. It definitely is.

Q. And for how long?

A. Well, during the entire placement of the cement slurry. After the mud-circulation period, the cement slurry is mixed by the cementing service company, Halliburton, International, Byron-Jackson, and is pumped inside of the [2428] casing.

The cement head is either released or a special type head is used where a plug is inserted on top of the cement slurry, and the slurry then is pumped on down into position.

The cement slurry occupies approximately, depending on the amount of cement used, one-third or one-half of the volume of the casing, and as it travels on down——

Q. You mean lengthwise, in?

A. Laterally of the casing. So a 6,000-foot casing—and these are average figures I am giving—would have 2,000 feet of cement slurry inside of the 6,000 feet of steel casing.

Q. That is, that the cement would only occupy that 2,000 feet? It wouldn't be a mixture of mud and cement in that 2,000 feet? A. Not at all.

Q. That is why I wanted to get rid of that word "laterally," because there might have been some confusion about that.

A. I meant lengthwise of the casing.

Then mud fluid is pumped in above the cement-

(Testimony of Bruce Barkis.)

ing plug, and the cement slurry travels down until the first part of the—I mean the cement slurry then starts around the shoe of the casing.

And in all of this period the casing is being moved up and down and the scratchers are removing either the primary [2429] cake that has been formed at the start or the secondary cake that is formed from the high pressures in the well, even during the stroking of the casing, and then the cement slurry starts around in the annulus.

Q. By “annulus” you mean what?

A. The space between the casing and the well bore. And then it is in contact with the scratcher equipment, the centralizer equipment, and, as it travels upwardly, that may require eight, ten, twelve, twenty minutes, thirty minutes in that period.

The motion of the casing is still continued and finally the cement reaches what is called the equalization point when the pressures are equal inside and out, because the mud and the slurry, as a rule—the cement slurry weighs more than the mud fluid, and when the columns are about equal inside the casing and outside in the annulus, the pressures are about equal. And then in the pressure phase, when the cement slurry is being lifted beyond that point, pressures increase on the pressure gauge on the pump, and the cement slurry then is moved on up into its final position.

The Court: How do you avoid having this cement column get inside the casing?

(Testimony of Bruce Barkis.)

The Witness: The cement column is inside of the casing, as the plug separates it from the mud fluid that is pushing it down into position. The problem then is to pump the casing [2430] full of mud which will displace the cement slurry on the outside of the casing.

The Court: What do you mean, so that the cement slurry will replace the mud?

Mr. L. E. Lyon: No. Wait.

The Witness: It will replace the mud in the annulus, but the mud that is being pumped behind the cement slurry will displace the cement slurry inside of the casing.

Q. (By Mr. L. E. Lyon): And push it out of the casing?

A. And push it out of the casing, the lower end of the casing, and up around——

The Court: But it will keep the pressures equalized inside and outside of the casing, is that it?

The Witness: There is a pressure cycle, that as the heavy cement slurry is going down, the pumping pressure required to pump it down is at a minimum, but as we are lifting the cement slurry on the outside of the casing, then the pressure increases. So there is not an equal pressure. There is a pressure cycle in there from lower pressures to higher pressures.

The Court: I just wondered how you could determine when you got the cement outside of the interior of the casing.

(Testimony of Bruce Barkis.)

The Witness: The cement plug is the barrier between the cement slurry and——

Q. (By Mr. L. E. Lyon): What is a cement plug? Let us [2431] get a picture of it, a verbal picture, I mean.

A. The cement plug is a mechanism about eight inches long. It has an upwardly pointing rubber cup and downwardly guiding mechanism made out of rubber which is drillable.

Then the mud fluid behind, because of this rubber cup at the top of the plug, seals—when the plug hits the barrier, the pressure then seals the cement out again, and it is impossible to pump it through.

Now, at the bottom of the casing there is a down-whirler float shoe, as I testified yesterday, or a float collar, which is sometimes placed 30 feet above the bottom of the casing to leave that amount of cement inside of the casing, and when the cement plug reaches either the barrier of the float collar or of the float shoe, it stops the mud pump at the top and it is impossible to pump any mud in to follow up the cement.

The cement is then in position, in definite position, at the bottom of the casing and, as I say, above the bottom of the casing as the volume of cement that is used or the engineer calculated as the bottom of the hole that he cared to fill.

The Court: And it fills the annulus?

The Witness: Yes, sir.

Mr. Scofield: Won't it help the court, Mr. Barkis, to explain to him that the cement is intro-

(Testimony of Bruce Barkis.)

duced ahead of the plug so that you get a column of the cement in the casing? [2432]

The Court: I have that understanding.

Mr. Scofield: Yes, sir.

The Court: That is my understanding of the picture.

A plug is more or less like a plunger that follows the cement ahead of it.

Mr. L. E. Lyon: That is true.

The Witness: That is correct, and there is a barrier between the head of the cement slurry and following behind the mud fluid.

The Court: The problem in my mind is how to determine whether you have a casing full of cement at the bottom of the well.

Mr. Scofield: Well, we do have a casing full of cement, your Honor, when you put it in at the top. Then you put the plug in behind the cement.

Mr. L. E. Lyon: The witness has explained it.

Mr. Scofield: And then you put mud in behind it.

The Court: I believe I understand it now.

Mr. L. E. Lyon: I would like the record to show at this point that arrangements have been made for two accountants to fly to Houston tonight and get the records which may be available there and desirable to plaintiff.

At the same time I would like to give plaintiff notice that I would like to have them inspect the records and books with reference to sales made to the supply companies testified [2433] to here before, so as to satisfy themselves as to our charts that are

(Testimony of Bruce Barkis.)

being prepared at the present time, so that they will have full information with respect to those sales over that period of time requested, from January 12th and prior thereto, say from 1948, prior thereto, until the present time, with reference to the supply-company sales.

Mr. Scofield: Will you read Mr. Lyon's statement?

Mr. L. E. Lyon: And in this respect, your Honor, I may say, regarding my theory of this matter, and it may be that it does not comply with the court's, but I intend to show that this damage was caused by using one example of one supply company, not all of them, and rely on accounting to prove the precise amount of loss afterwards, and I do not deem, in my opinion, that it is necessary in a *prima facie* case of this kind, provided that there was damage, to prove all of the damages.

The Court: No. Only that there was damage and that there was damage of some consequence.

Mr. L. E. Lyon: That is right. [2434]

* * *

Q. (By Mr. L. E. Lyon): Mr. Barkis, you have testified that you were for some years with the State Mining Bureau and occupied a position of engineer in that State Mining Bureau job. While you were with the State Mining Bureau, did the well reports and logs pass over your desk?

A. Yes, they did, as required by California statute.

(Testimony of Bruce Barkis.)

Q. And did you inspect, during that period of time, [2436] all of those logs that went over your desk? A. Yes, I did, hundreds of them.

Q. Was there any requirement of the State Mining Bureau Act or any other regulation or rule which required a listing on those reports of special equipment used in any phases of the well?

A. No. There is no requirement to include any special equipment used in the well in any of the official reports turned in to the California Division of Oil and Gas.

Q. While you were in the position of engineer with that bureau, did you see any listing of special equipment go through those reports?

A. I have no recollection of having seen any reference in the well logs or well entries, entries of drilling and completion operations, that included that type of material.

Q. The question has been raised here several times with respect to the fact that the Mining Bureau reports of the Kelley well do not make any reference to the scratchers used in that well. In ordinary practice of the Mining Bureau in such reports would such scratchers have been included?

A. No. They would not have been. [2437]

Q. Mr. Barkis, set forth completely in the instructions of this Court January 26, 1952, a copy of which is attached to Exhibit UUU in evidence is a stamping which the defendant placed upon its invoices, that stamping being:

“ ‘This invoice includes a royalty of sixty cents

(Testimony of Bruce Barkis.)

(\$.60) per scratcher for each scratcher sold and extends to the purchaser a license to utilize the scratchers sold in practicing the inventions of Letters Patent Nos. 2,338,372 and 2,392,352 and under Claims numbered one through nine, inclusive, and Claim fifteen of Letters Patent No. 2,374,317 or either or any thereof.' "

Why did B & W stamp its invoices in that manner at that time? In the first place, did they stamp them at that time in that way?

A. Not at this time.

Q. I say at that time.

A. But prior to that time we had stamped our invoices, on the legal advice of Lyon & Lyon.

Q. And what was that advice and what was it based on?

A. It was based on the fact that B & W owned method patents and apparatus patents, and it was B & W's attempt—or not "attempt"—but B & W's wish to avoid any claim of misusing those patents.

Q. At the same time that you started stamping this [2438] notice, which I have read into the record from Exhibit UUU on your invoices, were there any other acts taken by B & W to notify the trade that licenses were freely available under the patents as listed in this notice and under the claims listed therein?

A. I can't recall any correspondence covering it.

Q. Don't you recall the notice that was sent to the Patent Office to place these patents on the register, Mr. Barkis?

(Testimony of Bruce Barkis.)

A. Oh, I was thinking of oil companies. We contacted the Patent Office and placed the patents on the register and, on the advice of Lyon & Lyon, established a licensing policy.

Q. And that notice to the Patent Office stated, did it not, substantially the same as is set forth in this quoted portion of Exhibit UUU that I read into the record? [2439]

* * *

Q. (By Mr. L. E. Lyon): At the time this stamping that I read was placed on your invoices there was being made a claim against your company for violation of the anti-trust laws, was there not, both here and in Texas? A. Yes, there was.

Q. And did that have anything to do with my advice to you to place that notice on the invoices?

A. It was my understanding that that was the control. [2440] Following the filing of the suits, of the two suits in Houston, why, we had asked for advice on the matter.

Q. Did that marking of that invoice cause any difficulties in your sales program, Mr. Barkis?

A. No, it did not.

Q. Didn't you have an inquiry from the Gulf Company objecting to that marking?

A. The Gulf asked for a review and an explanation, and it was my understanding that that was done. I didn't handle the situation. That is why I am not familiar with it.

Q. Mr. Barkis, you started to manufacture and

(Testimony of Bruce Barkis.)

place on the market for sale the scratchers in the first part of 1940; isn't that correct?

A. That is correct.

Q. And you made some sales, as shown by the records here in evidence, prior to March 19, 1940, the date of the reading of this report by Mr. Jones before the local division of the API at the Biltmore Hotel; that is true, isn't it?

A. That is correct.

Q. Did your business increase after March 19, 1940?

A. Yes, it did. The Jones & Berdine report on cementing and the success they had had with the usage of scratchers was very helpful to B & W, Inc.

Q. Well, did it open up this business?

A. Yes, it was a great stimulant. [2441]

Q. Your sales increased so that in June of that year you opened up a second office, didn't you?

A. Yes, in June of 1940 I went to Houston, Texas, and opened up the Gulf Coast office.

Q. And you had sufficient business between March 19 of 1940 and June of 1940 to require you to open up a second office, is that it?

A. That is correct.

Q. At that time was there anybody else in the scratcher business?

A. No, there was not.

Q. You were the sole occupant of the field?

A. Yes, we were.

The Court: How long was that so?

The Witness: Until, I would place the first event as July 7, 1941, the release of the advertise-

(Testimony of Bruce Barkis.)

ment in the Oil Weekly of the Weatherford Spring Company.

Q. (By Mr. L. E. Lyon): That is Exhibit A?

A. Exhibit A, yes.

Mr. Scofield: What was the date that you started the Houston office?

The Witness: The latter part of June, 1940.

Q. (By Mr. L. E. Lyon): Mr. Barkis, along in 1940 there came on the market—maybe it was in '39; you tell me which—a device that was introduced, known as a “hole caliper,” [2442] is that correct?

A. No, sir; it was a little later than that.

Q. How much later?

A. Mr. Myron Kenley of Houston, Texas, the fire fighter, was the inventor of the hole caliper, and it was after I got to Houston, quite a while after I got to Houston, before the hole caliper was used in the field. It is possible a few tests may have been made but there had been no commercial usage of the device.

Q. Now, what is a hole caliper?

A. The hole caliper is an instrument to be run into an oil well to determine the diameter of the hole and to record that diameter at the surface on a graph, on a paper. I might say that Myron Kenley then licensed Halliburton Oil Well Cementing Company and the Halliburton device was the first commercial caliper on the market.

Q. Did that hole caliper result in any modified thinking in your experience with respect to oil well

(Testimony of Bruce Barkis.)

cementing? A. Yes, it did.

Q. What was that modified thinking?

A. It had a very considerable effect. The hole that had been drilled with an 8¾ bit, as is common in usage on the Gulf Coast, when the caliper was run the diameter of the hole was found not to be 8¾ inches. It was found [2443] that the hole had a very variable contour; that the diameters of the hole varied and that bore some relationship to the formation.

Q. Well, did the diameter of the hole vary—in what direction did it vary?

A. Well, it varied in all directions.

Q. That is, horizontally it was not circular, is that correct? A. That is correct.

Q. And vertically it was not cylindrical, is that correct? A. That is correct.

Q. Well, did they find that the hole was larger or smaller than they thought as produced by the 8¾-inch bit as you have testified?

A. Why, I have examined many caliper surveys and the hole in a lot of the area of the hole is larger than the bit, and then in the permeable formations, and also dependent on the water loss of mud drilling fluid, sometimes the indicated diameter of the hole, as shown by the caliper survey, is smaller than the bit diameter that was used to drill the hole.

Q. So that the hole was shown both to be larger and smaller in sections than they thought before the introduction of the hole caliper, is that [2444] correct? A. It certainly was.

(Testimony of Bruce Barkis.)

Q. Depending upon the particular section?

A. That is right.

Q. Did that determination or discovery or knowledge in the oil industry cause any change in scratchers or their usage in oil wells?

A. Well, generally, before that time the outer diameter of the scratchers corresponded, I would say, fairly closely with the bit diameter. After that time, why, the companies realized that there was a considerable variation in the hole diameter and the length of the wires in relation to the bit diameter or the diameter of the scratcher was increased.

Q. In order to meet that changed situation and to meet the conditions of the engineers in the field what did you advertise with respect to the length of the wires of your scratchers, Mr. Barkis?

A. Well, I recall that all of our catalogues, and in our discussions, we told them that we would provide any wire length that they wanted; that the purpose was to engage the wall of the hole and we would furnish any scratcher wire length that they would specify.

Q. I place before you your Bulletin 101, which is Plaintiff's Exhibit 42, and call your attention to the fact that there is a price list chart on what appears to be the [2445] third page of the bulletin, and ask you if that price chart contains in it the notice that you gave to the trade to which you have just testified; and if so, will you read it?

A. Yes, this price list shows, in addition to what we termed the standard outer diameter of

(Testimony of Bruce Barkis.)

each size scratcher for certain sizes of API casing, the statement below the chart that "wire length varied at no additional cost for any size casing or hole condition."

Q. Now, Mr. Barkis, you are still selling wall-cleaning guides like that shown in this Exhibit 42. Do purchasers now specify still the wire lengths that they desire?

A. Yes, they do. The standard wire lengths are shown. We provide three lengths of wires for each API size casing. They call the "short," the "standard," and the "long," and they specify whichever wire length that they require.

Q. Are you still holding out to the trade the same thing that was originally in Bulletin 101, Plaintiff's Exhibit 42, that you vary the wire length at their specifications on request?

A. That is correct.

Q. Did the introduction of this Halliburton hole caliper cause any change in concept in the industry as to what the length of scratcher wires should be?

A. Yes. I believe I testified that when the operating companies found that the contour of the hole varied and the [2446] diameters varied, that they generally increased the wire lengths of the wires on the B & W wall-cleaning guides.

Mr. L. E. Lyon: May I have Exhibits A and B?

Q. In Plaintiff's Exhibit 42 there is a chart which includes a series of casing sizes and includes one casing size which is $8\frac{1}{8}$ inches. Have you ever seen anybody run such a casing size?

(Testimony of Bruce Barkis.)

A. No, I have never been on a derrick floor that an 8 $\frac{1}{8}$ -inch casing was used.

Q. Isn't that a freak size, if it ever existed?

A. It is an unusual size.

Q. Isn't that an error in that chart to put that in there?

A. I don't believe it was an error, but there isn't any such pipe in usage, or generally used or even occasionally used.

Q. Did you ever sell any such scratcher for any such size?

A. I don't believe that we ever sold or manufactured such sized scratchers.

Q. That chart compares, does it not, with the chart set forth in Exhibit A, Mr. Barkis, that is, the Weatherford Spring Company's first advertisement?

A. Yes, it compares, but the chart in Exhibit A is not as extensive as the chart in Exhibit 42. It includes [2447] three columns that are a part of the chart of B & W catalogue, Exhibit 42.

Q. And were lifted out of 42, weren't they, to the extent that they contain the 8 $\frac{1}{8}$ -inch casing size?

A. Yes, there is 10 casing sizes shown and 8 $\frac{1}{8}$ is shown on each of the charts.

Q. Under the chart of Exhibit A is this statement with respect to the wire lengths. Will you read that statement?

A. The statement is identical: "This wire length

(Testimony of Bruce Barkis.)

varied at no additional cost for any size casing or hole condition." And I am reading from Exhibit A.

Q. Look at Exhibit B and see if the same thing is not there repeated again on September 11, 1941, that is, the same chart and same statement?

A. Yes, the chart on Exhibit B is the same as the chart on Exhibit A, and also it includes 8 $\frac{1}{8}$ in size and the same statement concerning the variation of wire lengths.

Q. I place before you, Mr. Barkis, letter of July 28, 1950, written by Mr. Scofield to Mr. George D. Fiser of the Union Producing Company, in evidence as WWW. Did you receive any reaction from the Union Producing Company to that letter? I might place all of them before you. Here is the Union Producing Company letter, Exhibit XXX, and the Union Producing Company letters YYY and ZZZ, which constitute a string of correspondence beginning with this notification that the [2448] Union Producing Company in buying your Multiflex and Nu-Coil scratchers is infringing Wright patent No. '317.

A. This chain of correspondence relates to Mr. Scofield's notification to the Union Producing Company and to other companies that the Multiflex and Nu-Coil scratcher of B & W was an infringement of the Wright patent 2,374,317, and did have a serious effect on our business.

Q. Were you called upon by the Union Producing Company to explain what the circumstances were at that time? A. Yes, we were.

(Testimony of Bruce Barkis.)

Q. When?

A. After they had received these letters from Mr. Scofield. There is one letter here, Exhibit WWW, dated July 28, 1950, that includes this notice of infringement.

There is another letter, XXX, dated July 28, 1950, referring to Mr. Scofield's request made to the Union Producing Company for their records and their purchases of B & W Multiflex and Nu-Coil scratchers. The letter of YYY dated August 3, 1950, is the reply to Mr. Scofield's letter of July 28th requesting further information from Mr. Scofield.

Q. Were you called upon——

A. Excuse me. I want to finish.

Q. Go ahead.

A. And Exhibit ZZZ is a letter from Mr. Scofield dated August 8, 1950, in reply to Mr. Fiser and including this [2449] additional information as to his reasons for having charged infringement.

Q. Did these letters to Union Producing Company cause the Union Producing Company to stop buying Multiflex and Nu-Coil scratchers?

A. That was the outcome of it. The field department stopped purchases not only of B & W Multiflex and Nu-Coil scratchers, but of B & W equipment generally.

Q. Isn't it a fact, Mr. Barkis, that Union Producing Company stopped buying scratchers from anybody, either plaintiff or defendants, to your knowledge, because of this correspondence?

A. I have testified that Mr. Quigles who was the

(Testimony of Bruce Barkis.)

head man of that company has a very distinct aversion to litigation, and patent litigation especially; and he stated very outspokenly that he does not want any part of it. And when this thing was brought up by Mr. Scofield in 1950, my recollection is that Mr. Quigles said, "Why, we won't use anything at all. We will just stop using it all."

Q. Has that condition continued up until nearly the present time, Mr. Barkis?

A. As I have testified, it was just recently another cementing committee was appointed and they are reviewing that company's cementing activities right now. [2450]

Q. (By Mr. L. E. Lyon): You don't know how early it was in the year 1950 that Union Producing Company stopped buying scratchers from anybody, do you?

A. No, I don't have the recollection of the exact information on that.

Q. I place before you correspondence with The Texas Company, beginning with a letter marked for identification as Exhibit VV, and I will ask Mr. Scofield if he will stipulate that this is a true copy of a letter sent by him to Mr. W. C. Kneale, manager of South Texas Division, The Texas Oil Company, on July 28, 1950.

Mr. Scofield: That appears to be a copy.

Mr. L. E. Lyon: Do you so stipulate?

Mr. Scofield: Yes, I think I will stipulate.

Mr. L. E. Lyon: I will offer Exhibit VV in evidence as Exhibit VV.

(Testimony of Bruce Barkis.)

Mr. Smith: It is already in evidence.

Mr. L. E. Lyon: Now, it doesn't appear on here, but if it is a duplicate I will withdraw the offer and ask that it be marked "In evidence."

The Court: Exhibit VV?

Mr. L. E. Lyon: Exhibit VV.

Mr. R. F. Lyon: It is in evidence.

Mr. Scofield: Yes, it is in evidence.

Mr. L. E. Lyon: All right. Mr. Hooser, will you sign [2451] this and marked it "In evidence"?

The Clerk: Yes, sir

The Court: According to my notes, it was received on November 24th.

Mr. Scofield: On the 24th, yes, sir.

Mr. L. E. Lyon: On the slip it is not so marked, your Honor. It was received on November 24th. Put the date in.

Q. I show you three letters being marked as Exhibits VV, HHH, and III, and ask you, Mr. Barkis, if you are familiar with this correspondence.

A. Yes, I am. These three letters are addressed to individuals in The Texas Company and all of the same date and have to do with Mr. Scofield's charge that the Multiflex and Nu-Coil scratchers are infringements.

Q. Did you receive any reaction from the sending of these letters to The Texas Company?

A. Yes, we did.

Q. What reaction?

A. Mr. Kneale called me personally and asked me to come up to his office to discuss the situation.

(Testimony of Bruce Barkis.)

Q. Where is his office?

A. His office is in Houston, Texas. I don't recall the name of the building there. It was not The Texas Company Building at that time. And he and I, in his office, were the only ones present, and he showed me this letter and asked me [2452] "What about it?"

Q. All right. What did you say?

A. I told him that we were in litigation with Mr. Hall, that the whole situation was confused, that a suit had been filed by Mr. Hall against us in 1947—this letter is dated 1950—and that Mr. Hall or any of the Weatherford companies had not paid us any royalty since 1946, that they had shown our patent number under their device in their own catalog in 1947, and that to my knowledge there was no patent of issue to Mr. Hall, and that I would refer the situation to your office and ask you to contact the patent department of The Texas Company in an effort to clarify the situation.

Q. Well, did these letters, the exhibits of which are before you, result in The Texas Company stopping buying Multiflex and Nu-Coil scratchers, or were you able to satisfy The Texas Company so that no such stop order was issued?

A. It is my recollection that after Mr. Stratford, who is the president of Texaco Development Company, who handled patents for the Texas Company, reviewed the situation, his conclusion was that until Mr. Hall had a patent at issue they felt that Mr. Scofield's position was poorly taken and

(Testimony of Bruce Barkis.)

that they would continue to use B and W Multiflex and Nu-Coil scratchers.

Q. And they did continue to so use them, did they not? A. Yes, they did. [2453]

Q. And continued to date, is that right?

A. Yes, they are still very good customers.

Mr. L. E. Lyon: Your Honor, I would like to have a recess at the present time.

The Court: We will take a five-minute recess.

(Recess.)

Q. (By Mr. L. E. Lyon): You have testified, Mr. Barkis, with reference to the receipt of these letters by The Texas Company and the Union Producing Company. By "these letters" I mean the letters threatening the companies with suit for infringement under the Wright '317 patent for purchasing your Nu-Coil and Multiflex scratchers.

Are these the only companies you know of that received this same notice?

A. Other companies contacted me and told me that they had received either the written notice or that Mr. Hall, Sr., had called on them and had given them that message.

Q. What other companies were they?

A. I recall at that time, which would be in 1950, that Ed Downing, who is a head man for Magnolia Petroleum, the Socony Vacuum Oil Company at Dallas, told me that their legal department of the Magnolia Petroleum was very concerned about this charge of infringement and asked me to contact the legal department.

(Testimony of Bruce Barkis.)

Q. Did you do that? [2454] A. I did.

Q. When?

A. The same day that Mr. Downing talked to me. It is my recollection that I drove out to the——

Q. You say it was the same day, but I still haven't found out what day that was.

A. It would be in August, 1950.

Q. All right. Now, you say you drove out where?

A. To the research department of Magnolia Petroleum, which is about seven miles south and west of Dallas, and I contacted the legal or patent counsel, the gentleman that I was told was in the patent department of Magnolia Petroleum. I don't recall his name exactly. My recollection is that it was Rolgovin, R-o-l-g-o-v-i-n, or some such name as that. And I told him that Mr.—just he and I were present in his office at the research laboratory—I told him that Mr. Downing had suggested to me that I contact him, and he inquired about this [2455] situation.

I told him that Lyon & Lyon were our counsel and suggested that he contact that firm for any information that he might require to clear up his mind on it.

Q. All right. Were there any other companies?

A. Well, I recall at about the same time, which would be in August of 1950, that John Goodrich——

Q. Of what company?

A. Of Magnolia Petroleum. He is, I would say, general superintendent of the Magnolia Petroleum's

(Testimony of Bruce Barkis.)

field operations on the Gulf Coast. And he told me that Mr. Hall had been in to see him and had reviewed the patent situation with him and told him that, in his estimation, the B & W Multiflex and Nu-Coil scratchers were infringements of allowed claims that he had.

Q. Well, was there any reference made to this claim that they were infringing the Wright '317 patent at that time?

A. I can't recall that there was any reference to that. Mr. Goodrich was more concerned about what he termed Mr. Hall's threats that his usage of our equipment might involve his company in litigation. That is what he wanted assurance on.

Q. Were you able to give Mr. Goodrich the necessary assurances?

A. I told him of my talk with Ed Downing and the [2456] patent counsel, and told him that I was sure that his patent counsel had information on it and was aware of the entire situation.

The same thing with the Pure Oil Company. Charles Brown is the general superintendent of operations for Pure Oil Company on the Gulf Coast. Mr. Hall, Sr., had called on Mr. Brown and about the same conversation, the same inquiry, and I gave him the same information.

Q. Any others?

A. Well, I made a trip through the Texas Gulf Coast and over to New Orleans.

Q. When?

A. In 1950. It happened that I was about two

(Testimony of Bruce Barkis.)

or three days behind the travel pattern of Mr. Hall, Sr., and I ran across quite a few inquiries about patents.

I mentioned Roy Pitre at Raywood; Mr. Watson, Lake Tool & Supply Company at Liberty, Texas; Matt Gordy, superintendent of the Stanolind Oil & Gas Company at Lafayette, Louisiana; Dick Jones of Gulf Oil Company at Lafayette, Louisiana.

Those are the ones that stand out in my recollection as having made inquiry about the patent situation.

Q. Was there any general pattern followed by these inquiries? A. Yes, there was. [2457]

Q. What was that pattern?

A. The pattern was that any oil company's usage of B & W Multiflex and Nu-Coil scratchers is an infringement of allowed claims that Mr. Hall had on a rotatable, slidable and tangential scratcher. They all followed that same pattern.

Q. And you were called upon to make an explanation in each case, were you?

A. Yes, I was.

Q. In each of the cases that you have last enumerated were you able to give a satisfactory explanation? I mean satisfactory to the customer so that they did not cease buying your equipment?

A. I felt that I satisfied the individual. I had no way of knowing whether he had referred it on through to his divisional office or to their patent department.

(Testimony of Bruce Barkis.)

Mr. L. E. Lyon: I would like to have the Rogers article, if I may, Exhibit BE, Mr. Clerk.

Q. I place before you Exhibit BE and ask you if you are familiar with this article, Mr. Barkis?

A. Yes, I am. I am familiar with the article and I know Mr. Rogers personally, of the Carter Oil Company which is a subsidiary of the Standard Oil Company of New Jersey.

Q. Mr. Rogers sets forth an article with reference to their use of scratchers. Whose scratchers are shown in these [2458] pictures?

A. This article is by Mr. J. L. Rogers and shows installation of B & W wall-cleaning guides on the casing, and describes the usage of that piece of equipment in the operations of the Carter Oil Company in the tri-state area of Illinois, Indiana and Kentucky.

Q. I will ask you to read from this article, page 100, as it appeared in the Oil & Gas Journal as of July 13, 1946, page 100, the paragraph starting: "Since commencing this program."

A. I might first state that the publishing date of this article is July 13, 1946, and the paragraph you indicated reads:

"Since commencing this program 62 of 64 jobs attempted by the same operator have been satisfactory from the standpoint of cementing, or a 97 per cent success frequency."

Q. Does that article show that they were using in all of those 64 jobs a wall-cleaning guide?

A. Yes.

(Testimony of Bruce Barkis.)

Q. And that wall-cleaning guide is shown to be the same as Exhibit 104? A. That is correct.

Q. Which I hold up here. All right. And that article is a published statement of a success frequency of over 97 [2459] per cent, is that correct?

A. That is correct.

Q. Humble Oil & Refining Company put on the market, I believe you testified, through the Halliburton Oil Well Cementing Company the so-called rotary scratcher; is that true?

A. Yes, the Halliburton Oil Well Cementing Company released the Howco Roto-Cleaner which is a rotating scratcher.

Q. When?

A. My recollection is the fall of 1946, following the Teplitz paper.

Q. Is there any A.P.I. report or any report to the industry with respect to the extent of the use of the rotating type scratcher that you know of?

A. Yes, sir. I recall that George Cannon, who is one of the co-inventors of the device and who is one of the executive equipment engineers for Humble Oil Refining Company, presented a paper that included a description of the usage of this piece of equipment, at the National meeting of the American Petroleum Institute in Chicago in 1948. The reason I recall distinctly is that I had the opportunity of discussing the paper at that time at Chicago.

Q. Was there anyone else there who also discussed that paper?

(Testimony of Bruce Barkis.)

A. Yes, sir. My recollection is Mr. John A. Hall was [2460] there and discussed that paper.

Q. Was Mr. Teplitz of the Gulf Company also there and discussed it?

A. Yes, sir. The meeting was devoted to several papers on cementing. And Mr. Hassebroek, also of Halliburton Oil Well Cementing Company, who was the co-author with Teplitz of the paper in 1946, was there, certain Stanolind Oil & Gas personnel, and there was a very large attendance.

Q. I place before you what was handed to me as an abstract of that talk given by Mr. Cannon in which it states: "During the past two years there have been more than 30,000 Roto-Cleaning units used on oil well casing," and ask you if you can tell me what that refers to?

A. A unit of rotating casing is five feet. It is a horizontal strip that extends vertically on the casing and is tack-welded to the casing. 30,000 strips would be 150,000 feet over all.

Q. Besides Halliburton, what other companies were making rotating type scratchers at that time?

A. There was no other company making.

Q. At what time are you speaking of?

A. Of 1946.

Q. I mean in the time of this article in 1948.

A. Oh, in 1947, late 1947, B & W released their rotating scratcher. [2461]

Q. I have two devices in my hands, Mr. Barkis, one in my left hand; what is that?

A. That is a piece of Howco Roto-Cleaner.

(Testimony of Bruce Barkis.)

Q. A Halliburton rotary wall scratcher, is it?

A. Which was invented by George Cannon and Carl Reistle of Humble Oil & Refining Company, and was then turned over to Standard Development Company, who in turn licensed Halliburton Oil Well Cementing Company. And of significance also is Humble Oil Refining Company, my understanding, are large stockholders of Halliburton Oil Well Cementing Company.

Mr. L. E. Lyon: Now, I will ask that this device as just identified by the witness be received in evidence as Defendants' Exhibit next in order. [2462]

* * *

The Court: Very well, the objection is overruled. The device now offered is received in evidence as Defendants' Exhibit DT.

(The object referred to, and marked Defendants' Exhibit DT, was received in evidence.)

The Court: How is it described, Mr. Lyon?

Mr. L. E. Lyon: That is the Halliburton Oil Well Cementing Company rotary type scratcher.

Mr. Scofield: Will it appear on the record, too, your Honor, if that is the line of reasoning that they intend to take with regard to these devices of Halliburton Oil Well Cementing Company, it applies as well to the loss of sales of defendants as of plaintiff?

Mr. L. E. Lyon: It may very well. We can't deny that.

The Court: Do you offer the other device?

(Testimony of Bruce Barkis.)

Mr. L. E. Lyon: I will just as soon as I get it identified, your Honor.

Q. I have in my right hand, Mr. Barkis, another scratcher. Will you tell me what that is?

A. That is B & W rotating scratcher with the Multiflex-type bristle.

Q. That was brought out by B & W when?

A. About November or December, 1947.

Q. Is this device pictured by Mr. Cannon in his article before the A.P.I. that you have referred to? [2464]

A. Yes, it is illustrated in the Cannon technical article.

Q. Given before the A.P.I. meeting?

A. Figure 1, yes.

Q. And you were present at that meeting?

A. Yes, I was.

Q. And the statement with respect to those 30,000 units being sold, did it include both your rotating scratcher as well as the Halliburton-type scratcher?

A. That is my opinion.

Mr. L. E. Lyon: I will offer the B & W rotating type of scratcher in evidence as Defendants' Exhibit next in order, which will be DU.

The Clerk: DU.

Mr. L. E. Lyon: And ask that it be so marked.

The Court: Is there objection?

Mr. Scofield: No. If one goes in, I think both should go in.

The Court: Received in evidence.

(Testimony of Bruce Barkis.)

(The object referred to, and marked Defendants' Exhibit DU, was received in evidence.)

Q. (By Mr. L. E. Lyon): Mr. Barkis, these rotating-type scratchers are used in what manner as differentiated from the scratchers of the Nu-Coil, Multiflex, and Weatherford types and the wall-cleaning guides which we have here [2465] referred to in this case?

A. After casing reaches bottom of the well and prior to the cementing operation there are only three things that can be done with the casing; it can be allowed to remain at rest; it can be reciprocated; or it can be rotated. And the devices which I have just testified to——

Q. That is, DT and DU which I have in my hand?

A. Exhibits DT and DU are used in connection with the rotation of casing during the cementing operation.

Q. As differentiated from reciprocation of the casing?

A. Yes, with the collar-type scratcher.

Q. And by the collar type you mean the type that is here——

A. Exhibit 104.

Q. ——and your Nu-Coil?

A. Nu-Coil and the Multiflex scratchers.

Q. And the Weatherford type?

A. And the Weatherford-type scratchers.

Q. Mr. Barkis, you state that Mr. Teplitz was present when Mr. Cannon gave this paper before

(Testimony of Bruce Barkis.)

the A.P.I. I will ask you if you recall at that meeting that Mr. Teplitz made a statement with respect to the use of the reciprocating-type scratcher and to the success frequency of the Gulf Oil Company in the use of the Weatherford scratcher? Do you recall that? [2466]

A. I would prefer to refresh my memory from the printed report.

Q. All right. You find it. You closed it.

Mr. Scofield: Mr. Bargion, would you read that last question? That is the "success frequency" of what?

Mr. L. E. Lyon: Of a reciprocating-type scratcher.

(The question referred to was read.)

Mr. L. E. Lyon: Reciprocating type.

The Witness: I have now reviewed the Teplitz discussion of the Cannon paper on page 131 of the A.P.I. Yearbook for 1948, and I read from paragraph 4 of the Teplitz discussion, and I quote:

"Without going further into the relative merits of the two systems"—

Q. (By Mr. L. E. Lyon): The two systems being what?

A. That would be the system of reciprocation or of rotation of the casing during the cementing operation, and I will continue:

—"It might be of interest to cite our company's over-all record of greater than 90 per cent of completions without squeezing, in ap-

(Testimony of Bruce Barkis.)

proximately 400 wells in which the reciprocating equipment was used in setting the casing. This figure includes certain areas where, prior to the use of this technique, 9 out of every 10 wells were squeezed at the time of [2467] completion—not merely as a precautionary, but as a necessary, measure.”

Q. And at that time, to your knowledge, what scratchers were being manufactured and used by the Gulf Company—were being used? I don’t mean that the Gulf Company was manufacturing any.

A. This paper was presented in November of 1948. A very large bulk of the scratcher equipment and the centralizer equipment being used by the Gulf Oil Corporation was Weatherford at that time. But I have testified that during 1948 I had made several field jobs with Teplitz in an effort to interest the Gulf Oil Corporation in using the B and W Multiflex scratcher and the B and W centralizers, and we had sold some equipment but not very much to the Gulf Oil Corporation at that time.

Q. How many wells did you work on with Teplitz at that time? A. How many wells?

Q. Yes.

A. My recollection is that there were about five or six wells included in the test program.

Q. Were all those successful completions that you had on that test program?

A. Yes. They were. They used their established test program of caliper surveys, the use of Carnotite in [2468] the cement slurry to establish the

(Testimony of Bruce Barkis.)

top of the cement column, with gamma-ray survey caliper surveys, in other words, using the whole program. [2469]

* * *

Mr. L. E. Lyon: As far as I have been able to find, your Honor, this letter has not previously been identified. It has, however, been submitted to counsel for plaintiff and it is the letter which I referred to this morning and thought was in evidence. It is a letter dated June 29, 1951, addressed to the "Commissioner of Patents, Washington 25, D. C. re Register of Patents Available for License or Sale."

I will ask this witness if he can identify that letter?

A. Yes, I can.

Q. Is that a true copy of the letter that was sent to the Patent Office on or about that date?

A. Yes, it is.

Q. On behalf of B & W?

A. On behalf of B & W.

Q. Was it signed by you?

A. Yes, it was signed by me as president.

Mr. L. E. Lyon: I will offer this document in evidence as Defendants' Exhibit DV.

Mr. Scofield: No objection. [2470]

The Court: Received in evidence.

(The document referred to, and marked Defendants' Exhibit DV, was received in evidence.)

(Testimony of Bruce Barkis.)

Mr. L. E. Lyon: I suppose that you will also stipulate, Mr. Scofield, that pursuant to that letter the three patents listed in the letter were placed on the Patent Office register as patents available for licensing or sale, as shown on January 1, 1952, in the Official Gazette of the Patent Office on page 13 thereof?

Mr. Scofield: I will so stipulate.

Mr. L. E. Lyon: And will stipulate that a photostatic copy of that notice of publication may be received in evidence in lieu of the original book which I have in my hand?

Mr. Scofield: That is agreeable.

The Court: So ordered.

Mr. L. E. Lyon: I will ask that that page of the Official Gazette, or, rather, the photostatic copy of it that will replace that page, be marked as the defendants' exhibit next in order.

The Court: That will be Defendants' DW, will it, Mr. Clerk?

The Clerk: DW.

The Court: Received in evidence.

Mr. Scofield: How about DV-1?

Mr. L. E. Lyon: It don't make any difference to me. [2471]

The Court: Is it related to DV?

Mr. L. E. Lyon: Yes, it is, your Honor.

The Court: Very well, let it be marked in evidence as Defendants' Exhibit DV-1.

(The document referred to, and marked De-

(Testimony of Bruce Barkis.)

fendants' Exhibit DV-1, was received in evidence.)

Q. (By Mr. L. E. Lyon): Mr. Barkis, this morning you were testifying about the plug which you used in cementing. Just so that the court might be able to visualize what a cement plug is, since there has been testimony of it, I hand you a device marked "International Cementing Co. 65/8 A.P.I." and ask you what that is?

A. That is the cementing plug that I referred to in my testimony this morning. This is the flexible rubber upper section that, along with the balance of the plug, results in a barrier between the cement slurry and the mud fluid that is used to pump the cement slurry into position. [2472]

Mr. L. E. Lyon: For the convenience of everybody, your Honor, and I don't know whether your Honor has fully visualized this cementing plug and whether you want it and think it appropriate to offer it in evidence or not——

Mr. Scofield: I have no objection.

Mr. L. E. Lyon: It is only for the education of the court, that is all I am producing it for.

The Court: It might be very helpful in understanding this entire procedure.

Mr. L. E. Lyon: All right. I will offer in evidence this rubber cementing plug as Defendant's Exhibit DW.

The Court: It is received in evidence. It is specimen of rubber cementing plug, is that it?

Mr. L. E. Lyon: That is right, your Honor.

(Testimony of Bruce Barkis.)

(The rubber cementing plug referred to, marked Defendants' Exhibit DW, was received in evidence.)

Q. (By Mr. L. E. Lyon): You testified this morning, Mr. Barkis, to the paper presented by Mr. George E. Cannon to the A.P.I. meeting, I believe, in 1948, and read certain excerpts from that article.

I hand to you a completed printed article and ask you if that is what you were referring to.

A. Yes, this is the technical article by Cannon that I referred to.

Q. And it has a printed excerpt of your remarks at the [2473] tail end under "Discussion"?

A. That is correct, on page 131.

Q. And that of A. J. Teplitz following?

A. His discussion follows.

Q. And was there a discussion of John A. Hall?

A. John A. Hall also discussed the paper.

Q. And W. E. Hassebroek?

A. W. E. Hassebroek, of Halliburton Cementing Company, also discussed the paper.

Q. They were all present and you heard them give those discussions at that time and place?

A. Yes, I did. I attended the meeting.

Mr. L. E. Lyon: I offer the paper just identified by the witness, which has not been heretofore marked, in evidence as Defendants' Exhibit DX.

The Court: DX, Mr. Clerk.

The Clerk: DX.

(Testimony of Bruce Barkis.)

The Court: It is received in evidence.

(The document referred to, marked Defendants' Exhibit DX, was received in evidence.)

Mr. Scofield: Is that a joint paper of Cannon and Reistle?

The Witness: No, it was not.

Mr. Scofield: Or just Cannon?

The Witness: It was authored by Cannon personally. [2474]

Q. (By Mr. L. E. Lyon): Mr. Barkis, there has been considerable testimony with respect to supply companies in this picture. What position in the picture of the oil tool and equipment field does a supply company have?

A. The oil companies years ago warehoused their own equipment, they purchased from manufacturers, maintained their own warehouses, and attempted to supply their own needs.

Along in about 1925 this situation changed and supply companies came into very active participation in meeting the equipment requirements of the oil companies.

The supply companies stock equipment, they provide equipment on direct purchase and delivery to the oil company, they invoice the customer, and are looked to by the oil companies to provide all of these services.

There has been a shortage of steel during the war years and after the war years. There is a rather close relationship between the providing of steel

(Testimony of Bruce Barkis.)

tubular goods, casing, and the providing of the supplies. The supply company is expected to co-operate with the oil companies if they furnish casing for the oil companies.

The supplier is rather jealous of his place in the picture, resents the manufacturer of oil-field equipment and specialties selling directly to the oil companies, and very often, when the supply company phones in or sends in a written purchase order to the manufacturer, he withholds— [2475] and intentionally—the name of his customer.

There are times when the supply company will forward the request of the oil company for field delivery and installation of the equipment, field service, and I am speaking of scratchers or other similar specialties, but this is not all of the time. My analysis shows that service is not provided in the majority but in the minority of cases.

The usual supplier's commission ranges from 5 per cent up to 30 per cent. The accepted general average is 15 per cent, which the manufacturer grants to a supplier as his commission for either stocking or handling or invoicing or selling, and the supply companies provide a selling service.

So that has come into general practice as being the relationship between the supply company and the oil company and the manufacturer. [2476]

* * *

Cross-Examination

By Mr. Scofield:

* * *

(Testimony of Bruce Barkis.)

Q. How were these 60-cent royalty notices applied to the B & W invoices that were issued by either your company, your distributors or by the supply stores?

A. It is my understanding of your question, how was it attached to the invoice?

Q. Yes, how were they attached, how was the notice applied to the invoice?

A. We placed a rubber stamp on our invoices, that is, B & W, Inc., did. It is my recollection that we furnished a similar rubber stamp to our distributors. But as far as the suppliers, I have no recollection of just how that was handled. [2586]

* * *

Q. How many distributors did you have at the time—well, let us first establish the date when these notices were stamped on the invoices. And in order to refresh your recollection I put before you a copy of the injunction which is attached to Exhibit TTT, and the injunction is dated January 25, 1952.

Mr. L. E. Lyon: I will stipulate that these were started to be stamped in July of 1951, the approximate date of the letter addressed to the Patent Office, and that date placing the patents on the register.

Mr. Scofield: I will accept the stipulation. That date was July of 1951?

Mr. L. E. Lyon: Right.

Q. (By Mr. Scofield): How many distributors did you have at that time or dealers?

(Testimony of Bruce Barkis.)

A. I would have to testify from recollection. J. L. Robinson in Great Bend, Kansas. I do not recall just whether the deal with Mr. Lewis of the Hub Supply Company had been made in Shreveport, Louisiana, at that time or not. I would have to refer to the records on that. As far as Emerick at Casper, Wyoming, it is my recollection that he was operating [2587] at that time. The Fuller Equipment Company deal in Odessa, Texas, was made, I believe, just before that.

* * *

Q. How about Somner in Shreveport?

A. Somner was never a distributor, Mr. Scofield. Somner was purely a supplier. There was never any contractual arrangement with Somner whatever. He was merely acting as the supply company.

Q. Any other distributors?

A. Not within the United States. And I am not familiar enough with the Canadian situation to testify on that. [2588]

* * *

Q. (By Mr. Scofield): What was the problem that confronted the industry in 1939 with respect to well completion?

A. There were many problems in connection with well completion. I assume that you are referring to the cementing of casing in oil wells.

Q. Yes.

A. Prior to the development of the gun perforator, it had been universal practice to cement the

(Testimony of Bruce Barkis.)

casing over the productive section, and on the Gulf coast the productive sections are comparatively thin. The wells would then be drilled into the producing sand, and a wire screen set to [2597] control the sand and allow the well to produce through the screen and upwardly through the casing.

With the introduction of the gun perforator on the Gulf coast in about 1935, when Lane-Wells moved their first truck to the Gulf coast, the companies, because of this situation of having thin sands and multiple sands, decided that in well completions it was more economical and practical to cement the casing, one single string of casing, through several productive sands.

Where it had been a relatively easy operation to get a cement sealing around the bottom few feet of the casing to separate any gas or water from above the productive sand entering into the productive sand, as soon as the gun perforator or selective-completion method came into being, these sands may have been positioned, oh, 100 or 1,000 feet above the cementing depth of the casing; in cementing the casing and in using the centralizers that were then in existence and which were used, the cement slurry, being fluid, traveled to the point of least resistance in the annulus between the casing and the wall of the hole, and only removed a portion of the mud fluid and mud-filter cake in that area. That was common practice from 1935 until scratchers came into usage on the Gulf coast. And

(Testimony of Bruce Barkis.)

in those years the practice of squeeze cementing was developed, and Halliburton Oil Well Cementing Company, Baker Oil Tools, [2598] Brown Oil Tools, and several other large service organizations developed so-called squeeze tools, cement retainers and other devices for introducing more cement in a secondary cementing operation to replace the residual mud cake that was left in this annulus area and which provided channels for the gas and water to intermix with the oil and contaminate the clean oil production. That was the development of the squeeze-cementing technique.

One thing stands out in my mind: The Humble Oil & Refining Company is the largest producer of oil in the United States.

Q. That is the Standard Oil of New Jersey?

A. It is the Standard, it is connected with—I question whether it is a subsidiary. It is an individual company, but it is the largest producer of oil in the United States.

One of the managers of that company had told me that squeeze cementing, which was prevalent on the Gulf coast at that time, was costing the industry five million dollars a year, and they encouraged me to help them and afforded full opportunity of testing the B and W wall-cleaning guide in the early work on the Gulf coast.

I again stress the point that centralizers were in common use at that time, of all forms, whether they were straight bow or spiral bow. But no centralizer had provided any [2599] solution for the cementing

(Testimony of Bruce Barkis.)

problem or had been adequate in eliminating squeeze cementing.

Q. So that this squeeze-cementing technique was recognized throughout the industry as a major problem, was it not?

A. Yes, it definitely was. Now, wait just a moment. Squeeze cementing was not the problem. Squeeze cementing was the remedy for the cementing problem. The proposition of leaving mud cake behind the casing was the problem. Squeeze cementing was only the cure for having done a poor cementing operation when scratchers were not used.

Q. Well, then, let us get at the elements of the problem itself. First there was the fact that you did not get a complete annular column of cement due to this channeling, as you call it; was that one of the elements of the problem?

A. Channeling has always been recognized as one of the problems connected with cementing.

Q. And channeling means that you do not get a complete annulus or a complete cement column around your casing?

A. Channeling—For a long time in the oil industry, practical men were of the opinion that the cement slurry would scour mud cake from the formation face. That was a common expression, “Use more cement and scour the mud cake.” That was discredited, entirely discredited.

And channeling means that when the cement slurry is [2600] ascending in the annulus area, that the cement slurry is not capable of scouring the

(Testimony of Bruce Barkis.)

mud cake, and as a fluid it only goes to the point of least resistance and may travel around the casing and in its own pattern, and definitely will not travel upwardly in a full column to scour all of the mud ahead of it. That is not done.

Q. So, instead of getting a complete solid column, you have a column which is perforated or is channeled throughout by means of these mud channels, is that correct?

A. Well, as described in the Teplitz-Hassebrock paper, channeling results in leaving half mud and half cement behind the casing when no scratchers are used.

Q. Now, there was another element of this problem, was there not, and that was obtaining a bond with the formation? A. That is correct.

Q. And how did the scratcher or abrading elements attempt to cure that?

A. The action of the scratcher is to expose the formation, to present a clean surface for the cement to bond to. Now, cement slurry is, as I have testified, a mixture of oil-well cement or Portland cement and about seven gallons of water. Only a portion of that water is required to hydrate the cement particles in a cubic foot of cement, and with the exposure of the formation there was an area where the additional water, or water above that [2601] required to hydrate the cement, may filter into the formation and create a bond with the [2602] formation.

Q. I am going to read you a paragraph and ask you whether or not this is a fair statement of the

(Testimony of Bruce Barkis.)

problem as it was recognized in the industry at that time.

“In the rotary method of well drilling it is the general practice to pump rotary mud through the well to cool and lubricate the drilling tools and to carry away the cuttings. The rotary mud collects on the wall of the well bore and during the drilling operation may assist in preventing caving of the bore and the entrance of unwanted fluid to the well.

“However, when a casing is to be cemented in the well, the coating of slime or mud on the wall of the bore prevents the cement from directly engaging and bonding with the earth formation and is often the cause of faulty and unsuccessful cementing operations.

“It has been found that the layer of mud on the wall of the well bore washes away and shrinks following the cementing of a casing, and allows water or other unwanted fluids to enter the well.”

Would you say that that was a fair statement of the problem?

A. Just from your first reading I would have difficulty. I would like to read it myself and study it. I can think of a couple of statements in there that I would not fully agree with. [2603]

Mr. Scofield: Would you read it back to him, Mr. Bargion?

Mr. L. E. Lyon: I think you had a complete answer. The witness stated that he did not agree with part of it. If he don't agree with part of it, he certainly don't agree with all of it.

(Testimony of Bruce Barkis.)

Q. (By Mr. Scofield): What part don't you agree with, Mr. Barkis?

A. If the paper were placed in front of me so that I could select those particular words, why, there is one sentence that stands out that I don't believe I could fully agree with.

Mr. Scofield (Exhibiting document to witness): If you have any difficulty with my handwriting?

A. The last paragraph, without reading the entire statement, and only referring to the last sentence, which reads:

"It has been found that the layer of mud on the wall of the well bore washes away and shrinks following the cementing of the casing and allows water or other unwanted fluids to enter the well."

I can't agree entirely with that.

Q. What is your objection to that?

A. Well, I don't believe it happens.

Q. Do you mean by that answer that after the cement column has been formed, that the portions that have not [2604] been filled with cement do not tend to shrink or wash away?

A. It is a situation that exists down in a well bore, and I don't know of any research work that has ever done anything about the shrinking of mud cake, and it is on that basis that I could not agree with the statement.

Q. What process was it that Mr. Wright proposed to you or brought to you in 1939 just prior to the forming of B & W, Inc.?

A. The idea of the process that Mr. Wright brought to me at that time set out in Patent No.—

(Testimony of Bruce Barkis.)

method patent, and it is covered by some of the early patents. It had to do with the cementing of casing in oil wells and the landing of perforated liners through productive sections and cleaning of mud cake from the face of the productive sections.

Q. In your previous answer you have referred to a method patent. I put before you Exhibit 37. Is that the method patent you referred to?

A. Yes, that is the method patent, 2,338,372, that I referred to. [2605]

* * *

Q. Did the process which Mr. Wright proposed have to do with cementing of the well bore or conditioning the well prior to cementing?

The Court: Or both?

Mr. Scofield: Either or both.

The Court: You may answer the question.

A. The question, to my mind, is confusing. The cementing of the well bore, you cement casing in the well bore, and the idea Mr. Wright brought to me was the cementing [2607] of casing in a well bore. That was the placement of a cement plug in an open well bore came later. But the original idea was as outlined in Exhibit 37, the cementing of casing in a well bore; and also, as I have testified, the removal of the mud cake from behind a perforated liner through the productive section of the well, where the casing is set above the productive section as is common in California.

Q. (By Mr. Scofield): The process Mr. Wright gave to you or proposed to you is contained in the

(Testimony of Bruce Barkis.)

method patent which is Exhibit 37, is that correct?

A. Yes, it is. It is set out in this patent of issue here. Probably if I had to do it over again I could do better, but this is it.

Q. And that is the method patent that you notified the Gulf about in your telegram which is here as Exhibit 19?

Mr. L. E. Lyon: Your Honor, the telegram is the best evidence of what its contents are. I object to it on that ground.

Mr. Scofield: I want him to identify this method patent, your Honor, with the telegram.

The Court: Very well. Place the exhibit before the witness.

A. Exhibit 19 is a telegram to Paul Foote of the Gulf Oil Corporation in Pittsburgh, signed by myself. To answer your question I only refer to that part of the telegram [2608] referring to your question. I feel that this is the one that you refer to:

“The So-called Weatherford Formula Is an Infringement of the B. and W. Method, Using an Excessive Amount of Equipment in Relation to the Average Usage of B. and W. Equipment by Shell, Humble, Pure, Sun, Phillips and Others on the Gulf Coast.”

That is the sentence I believe you referred to, and the B & W method that is referred to is the B & W method outlined in Exhibit 37, Patent No. 2,388,372; and also it is my understanding certain claims of other patents that have been mentioned this morning.

(Testimony of Bruce Barkis.)

Q. (By Mr. Scofield): And was that the method that was referred to in these 60-cent royalty notices? A. That is my understanding.

* * *

Q. (By Mr. Scofield): Did you ever object to the placing of the patent number of Wright's patent on Mr. Hall's [2609] advertising?

A. I have testified that——

The Court: Not what you have testified, Mr. Barkis. Just answer the question: Did you ever object?

A. I can't recall that I did. I attempted to explain the usage of it when questioned why it was put on there, but I can't say that I objected.

Q. (By Mr. Scofield): You had many inquiries from people as to the marking of the Hall advertising, did you not?

A. Do you mean the usage of our patent number?

Q. Yes. A. In Hall's 1947 advertising?

Q. Yes.

A. That is correct. There was a very considerable reaction in the industry about that.

Q. And did you ever refer one of those inquiries to Mr. Hall?

A. No. I have had very few contacts with Mr. Hall.

Q. Or did you ever on any occasion tell Mr. Hall that he should not put that number on his advertising? A. No, I don't believe I did. [2610]

* * *

(Testimony of Bruce Barkis.)

A. Prior to the release of the Multiflex scratcher, the wall-cleaning guide was the only piece of equipment, scratcher equipment, that B and W was offering to the oil [2629] industry, so the sales of scratchers would be all of that particular device.

Q. And constituted 100 per cent of the scratcher business of B and W?

A. That is correct. [2630]

* * *

The Court: Stipulated that these four volumes of the Doble deposition may be received in evidence and be considered as the testimony pro tanto, at least, of Mr. Doble?

Mr. Scofield: Yes, sir; I will so [2640] stipulate.

* * *

Mr. L. E. Lyon: At this time I will also offer in evidence the five volumes of the testimony given by Kenneth A. Wright in the two proceedings, one of them beginning on February 4, 1953, and being in three volumes, and the other his deposition being that of June 4, 1953, and being in two volumes.

I would likewise ask that these depositions be copied into the record and the originals returned to me, and that we have the same provision with respect to the exhibits identified in those depositions, that they will have to be correlated with the exhibits that are here, and the stipulation will have to be endeavored to be made with reference to those, because I

do not desire to try to put a witness on the stand and say: "Is this exhibit the same as the one you were talking about there?"

The Court: Is there objection to that procedure?

Mr. Scofield: No, I have no objection to that.

The Court: May it be stipulated that the five volumes of the Wright depositions be received in evidence upon this trial as pro tanto the testimony of the witness Kenneth A. Wright?

Mr. Scofield: I will so stipulate.[2643]

* * *

DEPOSITION OF WILLIAM A. DOBLE

WILLIAM A. DOBLE

a witness produced on behalf of the Petitioner, having been first duly sworn to testify the truth, the whole truth and nothing but the truth, upon oral interrogatories, deposed and testified as follows:

Direct Examination

By Mr. Lyon:

Q.1: Will you state your full name, residence and occupation?

A. William A. Doble. My residence is 45 Lloyden Drive in Atherton, California. My occupation is mechanical engineer, specializing in patent matters.

Q.2: Are you admitted to practice before the United States Patent Office? A. Yes, sir.

Q.3: Do you have your registry number available?

(Deposition of William A. Doble.)

A. No, I don't. I believe I have it. It may be in my brief bag.

Q.4: How long have you been engaged in the pursuit of mechanical engineering problems in connection with patent matters?

A. Since, oh, I would say roughly about 1926.

Q.5: Prior to 1926 what was your occupation?

A. My occupation was related to the experimentation and development of oil burning [2642-2] equipment, steam producing power plants, heat plants, and automotive equipment.

Q.6: You state you are a mechanical engineer. Are you a graduate mechanical engineer?

A. No, sir, I am not. I left Stanford during the first World War on the insistence of the Army. They needed mechanical engineers, and I was commissioned First Lieutenant in Ordnance at the first part of the First World War, and served as First Lieutenant during the First World War. I am a professional engineer, a professional engineer in the State of California, and the registration number is 4951.

Q.7: You say that you were commissioned a Lieutenant in Ordnance work in the First World War. Did you follow that into the Second World War? A. Yes.

Q.8: Are you now in any way connected with the United States Army?

A. I am a Reserve Officer in the United States Army.

Q.9: What rank? A. Full Colonel.

Q.10: Have you ever taken out any patents of

(Deposition of William A. Doble.)

your own? A. Yes, I have. [2642-3]

Q.11: About how many?

A. Oh, I would say about four or five.

Q.12: Have you ever acted as an expert witness in any other actions?

A. Yes, sir, about thirty, slightly over thirty.

Q.13: In what courts?

A. The Federal Courts of other states, in the present Circuit Court, and also in the Cincinnati area, Tulsa, Oklahoma. I guess Seattle and Portland are in the same District.

Q.14: Has the Circuit Court of Appeals of any Circuit Court recognized your qualifications as a patent expert? A. Yes, sir.

Q.15: In what case?

A. It was one of the Killifer cases, I believe. I forget the exact title of the case. I usually have that with me, but I don't have my list of qualifications today.

Q.16: Maybe I can supply it for you.

A. I can supply that information later.

Q.17: It was either International Harvester versus Killifer or Dinuba versus Killifer?

A. Yes. [2642-4]

Q.18: Both reported, both reports of the Circuit Court of Appeals of the Ninth Circuit?

A. Yes, sir.

Q.19: You will supply the precise citation later; is that it Mr. Doble? A. Yes, I will be glad to.

Q.20: I hand you a photostatic copy of Page 37 of the Oil Weekly of July 7, 1941, showing the advertisement of the Weatherford Spring Company.

(Deposition of William A. Doble.)

Mr. Lyon: Will it be stipulated that this is a true photostatic copy of that page——

Mr. Scofield: So stipulated.

Mr. Lyon: ——that appeared in that magazine at that time, that date?

Mr. Scofield: So stipulated.

Q.21: (By Mr. Lyon): I will ask you if you are familiar with that page of that publication?

A. Yes sir.

Q.22: What have you had to do with that page of that publication?

Mr. Scofield: Is that the Oil Weekly?

Mr. Lyon: The Oil Weekly.

The Witness: I received a copy of the advertisement which you placed before me from you with the instructions to have an Acme wall cleaning scratcher [2642-5] made in accordance with the information contained in the advertisement, that is, the written instructions in the advertisement, as well as the information I could obtain from a photograph in the upper right-hand corner of the advertisement which I have before me.

Q.23: Were you given any other information of any kind?

A. No, excepting to make it as closely as I could to the disclosure in the advertisement before me.

Q.24: Were you told at any time what I hoped might result from such instruction by you?

A. No, sir, you just gave me the advertisement, and told me to make it as closely as I possibly could to the advertisement.

(Deposition of William A. Doble.)

Q.25: Did you do that?

A. Yes, sir. That is for two different sizes. The size was to be three and a half inch, eight and a quarter inch, outer diameter, outside of the wires, and a five and a half inch with a standard diameter of ten and a quarter inches. I made two samples in accordance with the advertisement which I have before me.

Q.26: What length wires did you employ?

A. I employed four inch wires, and I obtained that length from the descriptive material within the advertisement. [2642-6]

Q.27: What descriptive material?

A. Reading under the paragraph entitled "Construction," quoting "The bristles are made of 15 gage spring steel in three and four inch lengths," and I chose the four inch length.

Q.28: Do you have the larger of the scratcher that you made, as you have testified, here, and if so will you produce it?

A. Yes, sir.

Q.29: You have produced a device within a ring. Will you describe what you have produced?

A. I have produced a scratcher which has a five and one-half inch inside diameter and a ten and one-quarter inch outside diameter. The outside diameter is the diameter of the outer ends of the scratcher wires, in accordance with the information I obtained from the advertisement of the Weatherford Spring Company which I have before me. I might say I also had an enlargement of the figure in the upper right-hand corner of the advertisement

(Deposition of William A. Doble.)

enlarged to as near as we could obtain it to five and a half inch diameter, so as to enable me to more accurately produce an Acme scratcher of the type shown in the advertisement before me.

Q.30: This scratcher is mounted in a ring. What is the ring? [2642-7]

A. The ring is merely an instrument to show the outside diameter of the wires. The ring is ten and one-quarter inches inside diameter, and illustrates how the scratcher fits within that diameter, and that substantially all of the wires engage the inner surface of the ring, thereby illustrating that the diameter of the scratcher is as closely as we could make it ten and one-quarter inches in diameter.

Q.31: Did you make this scratcher?

A. No, sir, I directed the making of the scratcher.

Q.32: Were you present when it was made?

A. Not all of the time. I visited the maker of the scratcher substantially every day, and sometimes twice a day, to see how he was progressing, and to answer any questions he had, and to check to see what the progress was in accordance with the instructions I had given him, and followed closely the advertisement of the Weatherford Spring Company.

Q.33: Where was this scratcher made?

A. The scratcher was made by the Adams-Campbell Company. I believe they are located on Los Angeles Street.

Q.34: After this scratcher was made, did I ask you, state whether I did or not, to determine what

(Deposition of William A. Doble.)

the [2642-8] angular relation of the scratcher wires was with relation to the periphery of the ring?

A. I don't believe you asked me to determine that, but from an observation looking directly down on top of it they appear to be very closely tangential to the circumference of the cylindrical portion of the scratcher. You directed that I have photographs made looking down on top of it to illustrate the angular relation of the wires to the periphery of the collar or body portion of the scratcher.

Q.35: You use the word "tangential." Would you define the word as you used it?

A. As I used the word "tangential," I would define the word "tangential" as constituting a right angular line to a diameter of the scratcher at the periphery of the cylindrical surface of the scratcher.

Q.36: You say that you had photographs taken of this assembled scratcher. I have in front of me some photographs which I will hand you, and ask you if you can identify them? A. Yes.

Q.37: In fact, there are multiple copies there, I see.

A. The photograph which I have before me now is a top plan view of the scratcher which we have just [2642-9] described mounted within the sizing ring which I have described, and it clearly shows the assembly of the two parts.

Q.38: This photograph shows the scratcher which you made or had made under your direction, as you have testified, and which scratcher is here in

(Deposition of William A. Doble.)

front of you on the table, and which you have just referred to; is that correct?

A. That is correct.

Mr. Scofield: I object to the question, instructing the witness as to what he has testified to.

The Witness: That is correct.

Mr. Lyon I will ask that this photograph just identified by the witness be received in evidence as Petitioner's Exhibit V.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit V, and made a part of this deposition.)

Q.39: (By Mr. Lyon): Now, you also have some other photographs in front of you. Will you tell me what they are?

A. The next photograph which I have before me illustrates the Acme scratcher, disassembled from the gaging ring, and is a top plan view, taken directly above the central axis of the [2642-10] scratcher.

Mr. Lyon: I will ask that this photograph just identified by the witness be received in evidence as Petitioner's Exhibit W.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit W, and made a part of this deposition.)

Q.40: (By Mr. Lyon): You have a further photograph of this same scratcher in a more or less plan view, a copy of which I hand you. Tell me what that photograph is.

(Deposition of William A. Doble.)

A. The photograph which you have just handed me is similar to Petitioner's Exhibit W, with the exception that it was endeavored to place the lens, the center of the lens directly over a peripheral point on the scratcher so as to eliminate at that point any distortion from angulation during the photographing of the scratcher.

Mr. Lyon: I will ask that this photograph be received in evidence as Petitioner's Exhibit X.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit X, and made a part of this deposition.)

Q.41: (By Mr. Lyon): Were you present and did you direct the taking of these photographs?

A. I directed the taking. I was not present when these three photographs were taken. [2642-11]

Q.42: They were taken in accordance with your instructions? A. Yes.

Q.43: Did you instruct the photographer in the manner in which they were to be taken?

Mr. Scofield: I object to that as leading. Let the witness tell the circumstances.

The Witness: No, Mr. Solum assisted me in various ways, and I explained to him just how I wanted the photographs taken, and he took the scratchers and the gaging ring to the photographer, and had the scratcher and ring photographed, and then I examined the resulting photographs to see that they followed out the instructions which I had given to him.

(Deposition of William A. Doble.)

Q.44: (By Mr. Lyon): Do you know on Exhibit X which you might say is down and which is up in what photograph?

A. Yes. I believe the portion which is made in alignment with the outer periphery with the scratcher is the downward portion or the lower portion of the photograph.

Q.45: Approximately what is the angular relation of the scratcher wires to the collar, as demonstrated by Exhibit X?

Mr. Scofield: That is objected to as secondary evidence. The exhibit itself would be the [2642-12] best evidence.

The Witness: I would say that it was about as close as tangential to the periphery of the body portion of the scratcher as could be obtained in this type of structure.

Q.46: (By Mr. Lyon): Here is another photograph, which you have before you. Can you tell me what that is?

A. Yes, the photograph which you have handed me is a photograph taken directly over the cylindrical gage ring, with a ruler placed under the gage ring. One edge of the internal diameter of the gage ring was placed on the figure 5 mark of the ruler, and it will be observed that the opposite surface which engages the ruler rests at fifteen and one-quarter inches, thus clearly showing that the diameter of the ring, the internal diameter of the ring was ten and one-quarter inches in diameter.

Mr. Scofield: May I have that answer?

(Deposition of William A. Doble.)

(The answer was read by the reporter.)

Mr. Lyon: I will ask that the photograph last identified by the witness be received in evidence as Petitioner's Exhibit Y.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit Y, and made a part of this deposition.) [2642-13]

Q.47: (By Mr. Lyon): I notice, Mr. Doble, that the scratcher which you have made as illustrated in photograph Exhibit X has wires formed. Just tell me how the wires are formed in the first place. I don't want to tell you.

A. Each of the wires in Petitioner's Exhibit X is formed with a relatively close loop which is held by a rivet on the internal surface of the scratcher, extends parallel, substantially parallel with the radius—with the axis of the scratcher to a coil spring section, which coil spring section extends up through an opening in the cylindrical body of the scratcher, and from the point of emergence of the spring through the hole the wire extends substantially tangentially for approximately four inches from the end of the coil.

Q.48: I notice in this particular model that the coil springs, some of them extend further through the holes than others. Does that effect a material variation in any way of the angular relationship of the wire?

A. No, it does not. It was a handmade job, and

(Deposition of William A. Doble.)

they all are not exactly duplicates. Like in most handmade jobs there is a slight variance.

Q.49: There are a number of turns in the coils. How was that determined?

A. It was determined from observing [2642-14] the coils as best we could in the photograph which appears in the Weatherford Spring Company advertisement, and in the enlargement of the figure in the upper right hand corner of the advertisement. It was rather difficult to determine just how many coils of wire there were, but we used what we thought—well, as best I could figure out the number of coils.

Q.50: Referring to this enlargement in the upper right hand corner, two coils are quite visible, are they not? A. Yes, sir, they are.

Q.51: That is, a portion of those coils are visible, and how many turns are indicated in each of those coils from that portion of the enlargement?

A. It was very difficult to see, but it appears to be about four, but there is a part of the coil that I don't know that we can see.

Q.52: And you have produced as nearly as possible an identical coil in the scratcher which was produced under your direction?

A. Yes, sir.

Q.53: Is the manner of securing the coil internally of the collar a faithful reproduction—

A. Yes, sir.

Q.54: —in the model? [2642-15]

(Deposition of William A. Doble.)

A. Yes, sir.

Q.55: In the enlargement of the illustration of the Acme scratcher, or wall cleaning scratcher, the enlargement being of the July 7, 1941, advertisement, state whether or not the coils as shown in this enlargement all extend through the collar to the same degree, as far as you can tell?

A. No, they do not.

Mr. Lyon: I will offer in evidence at this time the photostatic copy of the July 7, 1941, Page 37 of the Oil Weekly which has been identified by the witness as one that he used, and which has been stipulated to be a true copy of that advertisement which appeared that day in that magazine, as Petitioner's Exhibit Z, and I will offer at this time as Petitioner's Exhibit Z-1, the enlargement which has been referred to by the witness in his testimony.

(Documents referred to were marked by the Notary Public as Petitioner's Exhibits Z and Z-1, respectively, and made a part of this deposition.)

Q.56: (By Mr. Lyon): This ring that you have identified, where was that made?

A. That was made at the plant of Adams-Campbell also, and used to gage the over-all diameter of [2642-16] the wires of Petitioner's Exhibit AA.

Q.57: Did you make the ring?

(Deposition of William A. Doble.)

A. No, sir. I directed that they make it, so that we would be sure to get the outside diameter correct.

Q.58: That is, this ring was made under your personal direction then? A. Yes.

Mr. Lyon: I will ask that this ring be marked as Petitioner's Exhibit BB for identification.

(Ring referred to was marked by the Notary Public as Petitioner's Exhibit BB for identification and made a part of this deposition.)

Q.59: (By Mr. Lyon): You have stated that you have made two sizes of these scratchers?

A. Yes, sir.

Q.60: Was the other a smaller or a larger one?

A. It was smaller. It had an API—it was for an API casing o.d. of three and a half inches, and had an over-all diameter of eight and one-quarter inches.

Q.61: Where was this one made?

A. It was also made by Adams-Campbell at the same time that Petitioner's Exhibit AA was made.

Q.62: I hand you a photograph and I will ask you if you can identify this photograph? [2642-17]

A. Yes, sir, the photograph which you have handed me is a photograph of the three and a half inch Acme type scratcher as made in accordance with Petitioner's Exhibit Z, and the photograph was endeavored to be made at substantially the same tilted position as shown in the photograph or cut in the upper right hand corner of Petitioner's Exhibit Z.

(Deposition of William A. Doble.)

Q.63: You have two photographs here which appear to me to be of the same structure.

A. They are. The photograph——

Mr. Scofield: Mr. Lyon, if you have got copies of those it will save time to let me look at them while he is testifying.

Q.64: (By Mr. Lyon): What you apply to that is the same thing?

A. Yes. The first photograph I had was a sample made from the negative, and only one copy was made, and later slightly enlarged photographs were made and were printed a little bit more carefully, and the same comments which I made in regard to the first photograph apply with respect to the photograph I now have before me.

Mr. Lyon: I will ask that this photograph be marked for identification as Petitioner's Exhibit CC.

(Photograph referred to was marked by the [2642-18] Notary Public as Petitioner's Exhibit CC for identification, and made a part of this deposition.)

Q.65: (By Mr. Lyon): How was this scratcher made?

A. This scratcher was made by Adams-Campbell under my directions, and in accordance with the written description and a photographic illustration appearing in Petitioner's Exhibits Z and Z-1. I directed the making of the scratcher illustrated in Petitioner's Exhibit CC, and gave to Adams-Camp-

(Deposition of William A. Doble.)

bell a copy of the advertisement in the Oil Weekly of July 7, 1941, Petitioner's Exhibit Z, and a copy of the enlargement of the figure in the upper right hand corner, which is Petitioner's Exhibit Z-1, with the instructions that the scratcher was to be made as closely as they could make it following the description and the photographic instructions contained in the two exhibits, Petitioner's Exhibits Z and Z-1. I watched the construction, and followed it closely, and finally received the finished scratcher.

Q.66: Did you instruct them with respect to the length of the wires that were to be used?

A. Yes, sir, I did. I instructed them to make the wires four inches, in accordance with the instructions contained in the paragraph entitled "Construction" as follows: "The bristles are made of 15 gage spring [2642-19] steel in three and four inch lengths," and I chose the four inch as the length of the wires.

Mr. Scofield: What is the diameter of that collar?

Mr. Lyon: Just a minute. I will get into it.

Q.67: What size did you instruct them to make this scratcher?

A. I instructed Adams-Campbell to make the scratcher in accordance with the dimensions given as the first item under the portion entitled "Cost," where the first column of that portion has the words "API casing o.d. three and a half inches, standard outside diameter eight and one-quarter inches,"

(Deposition of William A. Doble.)

and the last column under that heading is the "Price List, \$6.75."

Q.68: You have a photograph, Exhibit CC for identification, in front of you. Was that photograph taken under your direction or was it taken under someone else's direction?

A. No, it was taken under my direction, but I was not present when the photograph was actually made. I instructed Mr. Solum just how I wanted it taken; in other words, I wanted it to appear as closely as we could to the same positioning as the scratcher is mounted in the upper right hand figure of Petitioner's Exhibit Z.

Q.69: Is that a photograph of the scratcher that was produced by Adams-Campbell under your direction? [2642-20] A. Yes, sir.

Mr. Lyon: I will ask that the photograph Petitioner's Exhibit CC for identification be received in evidence as Petitioner's Exhibit CC.

Q.70: Were other photographs taken of this scratcher? A. Yes, sir.

Q.71: I hand you a set of photographs, and ask you if you can identify this set of photographs?

A. Yes, you have handed me a photograph which is a top plan view of the three and a half inch Acme scratcher, the same as shown in Petitioner's Exhibit CC, and in this instance is a top plan view of the scratcher, and is mounted within a gage ring which gages the outside diameter of the wires extending from the body portion of the

(Deposition of William A. Doble.)

scratcher. The internal diameter of the gage ring is eight and one-quarter inches in diameter.

Mr. Lyon: I will ask that the photograph just identified by the witness be received in evidence as Petitioner's Exhibit DD.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit DD, and made a part of this deposition.)

Q.72: (By Mr. Lyon): I hand you a photograph, and ask you if you can identify this photograph? [2642-21] A. Yes, sir, I can.

Q.73: What does this photograph show?

A. The photograph you have shown me is a view of the gage ring taken——

Q.74: Which gage ring?

A. The gage ring for the three and a half inch Acme type of scratcher, as shown in Petitioner's Exhibit DD, and is looking directly down into the bore or central opening of the gage ring. The gage ring is mounted upon a ruler. The inner surface at the left hand side is positioned on the six inch mark of the ruler. The point of the internal diameter of the ring directly opposite extends to or crosses the fourteen and one-quarter inch mark on the ruler, and clearly illustrates that the internal diameter of the gage ring is eight and one-quarter inches in diameter.

Mr. Lyon: I will ask that this photograph be received in evidence as Petitioner's Exhibit EE.

(Deposition of William A. Doble.)

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit EE, and made a part of this deposition.)

Q.75: (By Mr. Lyon): I hand you two further photographs, and ask you if you can identify these photographs?

A. The first photograph which you have handed me is a photograph of the three and a half inch Acme type [2642-22] scratcher shown in Petitioner's Exhibit Z and also in the photographs of Petitioner's Exhibits CC and DD, and is looking directly down on top of the scratcher, with the center of the lens of the camera as close to the axial center of the scratcher as was possible to obtain.

Mr. Lyon: I will ask that this photograph just identified by the witness be received in evidence as Petitioner's Exhibit FF.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit FF, and made a part of this deposition.)

The Witness: The second photograph which you have handed me is similar to Petitioner's Exhibit FF. However, in this case, the center of the lens of the camera was moved so that it coincided as near as it could be aligned with the outer peripheral surface and one side of the scratcher structure, so as to give a truer picture of the angular relation of the wires with relation to the

(Deposition of William A. Doble.)

outer periphery of the cylindrical portion of the scratcher.

Q.76: (By Mr. Lyon): Incidentally, in this last photograph, tell me what is down.

A. Down is the portion which I would designate as the point where the back flange of the scratcher body coincides with the edge, inner front of the front [2642-23] flange of the scratcher body.

Mr. Scofield: Is the narrow edge of the collar as photographed down or up?

The Witness: Down, Mr. Scofield.

Q.77: (By Mr. Lyon): From these photographs of this so-called Aeme scratcher, and from the scratcher itself, did you determine the angular relation of the scratcher wires with reference to the collar?

A. I did not make a mathematical determination of the angular relation of the wire with relation to the peripheral surface of the scratcher. However, if I place my pencil across the scratcher, and then substantially coincident with the diameter of the scratcher and gage the angle of the wire projecting outwardly from the surface of the scratcher, it appears to be beyond the tangential relation with relation to the extended diameter of the scratcher at that point.

Q.78: What do you mean by "beyond"?

A. By "beyond" I mean that the angle between the extended diameter and the adjacent wire on the side of the center of the scratcher is less than 90 degrees and similarly, conversely, the angle

(Deposition of William A. Doble.)

between the extended portion of the wire outwardly from the center of the scratcher and outwardly from the wire is greater than 90 degrees. [2642-24]

Q.79: Greater by a substantial number of degrees or not?

A. Well, I would judge it would be about three to five degrees. I might point out that in the two scratchers, that five and a half inch and three and one-half inch scratchers which we have just referred to, as made in accordance with the advertisement in the Oil Weekly, Petitioner's Exhibit Z, that the wires extending from the periphery of the scratcher in each instance are crossed as near as we could make them to the drawing, as shown in the upper right hand corner of Petitioner's Exhibit Z.

Q.80: That is apparently a photograph in Exhibit A and not a drawing?

A. That is correct, an illustration, a photographic reproduction of some kind.

Mr. Lyon: I will offer the last photograph identified by the witness in evidence as Exhibit GG.

(The photograph referred to was marked by the Notary Public as Petitioner's Exhibit GG, and made a part of this deposition.)

Q.81: (By Mr. Lyon): Do you have, Mr. Doble, the smaller scratcher of Exhibits CC, DD, FF and GG here? A. Yes, sir.

Q.82: You have produced a scratcher inside of a [2642-25] ring? A. Yes.

(Deposition of William A. Doble.)

Q.83: Is this the scratcher shown in the photographs, Exhibits CC, DD, FF and GG?

A. Yes, sir, it is, and as I have handed it to you it appears like the photograph of Petitioner's Exhibit DD, with the three and a half inch scratcher mounted within the gage ring.

Q.84: Does the gage ring correspond to any of these photographs?

A. Yes, the gage ring corresponds to the photographs Petitioner's Exhibits EE and DD. In Petitioner's Exhibit EE the gage ring is shown mounted on a ruler, so as to readily determine the internal diameter of the gage ring.

Mr. Lyon: I will ask that the smaller size Acme scratcher just identified by the witness be marked as Petitioner's Exhibit HH for identification, and that the gage ring identified by the witness be marked for identification as Petitioner's Exhibit II.

(Scratcher and ring referred to were marked by the Notary Public as Petitioner's Exhibits HH and II for identification, respectively, and made a part of this deposition.) [2642-26]

(A short recess was here taken.)

Q.85: (By Mr. Lyon): Mr. Doble, I hand you another photograph, a copy of which I am handing counsel, and I ask you if you can tell me what this photograph is?

A. Yes, the photograph which you have handed

(Deposition of William A. Doble.)

me is a perspective view of the five and one-half inch Acme type scratcher made in accordance with the advertisement in the Oil Weekly, Petitioner's Exhibit Z, and the photograph was taken to approximate as closely as possible the reproduction in the upper right hand corner of Petitioners' Exhibit Z.

Q.86: That is, the photograph, the one that you have, is which one of the scratchers that are here in the room, by exhibit number?

A. By exhibit number it is Petitioner's Exhibit AA.

Mr. Lyon: I will offer this photograph in evidence as the Petitioner's Exhibit JJ.

(The photograph referred to was marked by the Notary Public as Petitioner's Exhibit JJ, and made a part of this deposition.)

Q.87: (By Mr. Lyon): Now, Mr. Doble, I asked you one other question, I believe, and that was to determine the rotational characteristics of these scratchers, and in that connection I hand you a photograph of a test [2642-27] apparatus, and I will ask you if you are familiar with this test apparatus? A. Yes, sir, I am.

Q.88: Were you present when this photograph was taken? A. Yes, sir.

Q.89: What does this photograph show?

A. The photograph which you have handed me shows a testing mechanism, which includes a three-

(Deposition of William A. Doble.)

legged stand, having a cylindrical supporting collar at the upper end of the three legs. It has certain brace members, two of which contain bearings with square openings for the free passage of a square reciprocating rod.

Q.90: It might be well, Mr. Doble, in order to make this description definite for you to mark on the photograph as you describe this with symbols or characters to indicate the parts you are referring to.

A. Referring again to the photograph, which I have before me, I have——

Mr. Lyon: Which I will now ask to be received in evidence, so that we can refer to it for convenience, as Petitioner's Exhibit KK.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit KK, and made a part of this deposition.) [2642-28]

Q.91: (By Mr. Lyon): Now, will you describe Exhibit KK? It might aid you, Mr. Doble, in your description of this if I gave you some other photographs that show this device disassembled.

Here is another photograph. Are you familiar with that? A. Yes.

Q.92: Will you tell me what that photograph is?

A. The photograph which you have just handed me illustrates the test stand without either a scratcher or a section of tube into which a scratcher is traversed.

(Deposition of William A. Doble.)

Q.93: Were you present when this photograph was taken? A. Yes.

Mr. Lyon: I will ask that this photograph be received in evidence as Petitioner's Exhibit LL.

(The photograph referred to was marked by the Notary Public as Petitioner's Exhibit LL, and made a part of this deposition.)

Q.94: (By Mr. Lyon): I hand you another photograph, and ask you if you can identify this?

A. Yes, sir.

Q.95: Were you present when this photograph was taken? A. Yes, sir. [2642-29]

Q.96: What is this photograph?

A. This photograph shows the test stand upon which has been mounted a cylindrical barrel which is to represent the casing, that is, well casing upon which the smaller sized scratchers will be mounted for test.

Mr. Lyon: I ask that this photograph be received in evidence as Petitioner's Exhibit MM.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit MM, and made a part of this deposition.)

Q.97: (By Mr. Lyon): Now, will you proceed?

A. I will first refer to photograph of Petitioner's Exhibit LL. As I have previously stated, the test structure includes three legs. I will number those legs "1," "2" and "3," and will give number "1" to the forward leg and number "2" to the

(Deposition of William A. Doble.)

rearmost leg and number "3" to the leg at the left hand side of the photograph. The lower end of the legs are resting upon the ground surface, and extend upwardly and are fastened to an annular ring "4." There is a series of brace rods "5," which connect the three legs directly below the annular ring "4." There is a second set of brace rods "6," which connect the three legs of the structure spaced below the brace rods "5," which I previously referred to. There is about two feet between the two sets of brace [2642-30] rods "5" and "6." Each of the series of brass rods is provided with a bearing "7." Each of the bearings "7" has a square hole through it, and mounted in that square hole is a square reciprocating rod "8." The fit between the square opening and the rod is sufficiently tight to prevent undue sidewise motion of the square rod, but permits ready reciprocation of the square rod "8." Connected to the rod end of the square rod is a cross head pin "9," to the outer ends of which is connected a pair of links "10," the upper ends of which are connected to the inner end of an actuating lever "11." The actuating lever in this portion of the structure is formed of two separate plate members, and at its forward end is provided with an angularly related handle member "12." The crank member is pivotally supported to the forward leg "1" by a bracket and bolt "13." Through the arrangement just described the square rod may be reciprocated up and down. In the photograph there is a pin "14," which extends through the forward leg "1" and above the operating lever so

(Deposition of William A. Doble.)

as to hold it in the position shown in the photograph. When the pin is removed the crank, or operating lever "12" may be swung up and down, that is, the handle portion may be swung up and down, and through the links "11" will cause the square rod "8" to reciprocate up and [2642-31] down.

Q.98: Is it possible, Mr. Doble, in this apparatus by actuating the handle "12" to impart any twisting or rotational motion to the square rod "8"? A. No, it is not possible to do so.

Q.99: Proceed.

A. The upper end of the square reciprocating rod "8" extends above the annular ring "4," and has mounted upon it two bearing brackets "15" and "16," which are provided with taper roller bearings for the mounting of a section of casing upon which—"16" is the forward one—upon which the scratchers are mounted to test their operation in a cylinder mounted upon the annular ring structure. I might also point out that the annular ring "4" is provided with three upstanding studs. The studs project upwardly from the upper surface of the ring for bolting or mounting upon——

Q.100: Did you number those studs?

A. No, I will number them with the numeral "17." I will give the same numeral to all three because they are alike. Those studs "17" are used to mount the flange of a cylindrical portion which contains a cylindrical barrel, in which the scratchers are to be tested.

(Deposition of William A. Doble.)

Q.101: Will you mark that flange?

A. I would rather mark it when I come to it, [2642-32] Mr. Lyon. I prefer to refer to Petitioner's Exhibit MM next.

Q.102: All right.

A. To point out in Petitioner's MM the barrel "18" which is mounted upon the reciprocating rod "8" on the bearings held by the bearing brackets "15" and "16." The upper bearing bracket "15" is provided with a lock screw "19," which extends from a lug of bracket "15" a sufficient distance, so that when the lock screw "19" is screwed down the point of the lock screw will engage the drum "18" and prevent its rotation relative to the square reciprocating rod "8." The drum of member "18" is provided with a lower collar "20," and a removable upper collar "21." I will now refer to Petitioner's Exhibit KK. In Petitioner's Exhibit KK it will be observed that a scratcher "22" is mounted upon the drum "18," which drum simulates a casing to be lowered in an oil well.

Q.103: What is the casing member?

A. The casing member is "18." We had that number before.

Q.104: You called it "drum" instead of "casing"?

A. I said it simulates a casing that is lowered into a well.

Q.105: Pardon me, I misunderstood [2642-33] you.

(Deposition of William A. Doble.)

A. Mounted on top of the annular ring or member "4" is a disk "23." The disk has a central opening into which tubular section "24" is securely fastened. The tubular section "24" is provided to represent the internal bore of a well, and it will be observed that wing nuts "25" are positioned on the stud "17" to securely retain the flange "23" of the tubular portion "24" securely on the test stand.

Q.106: Is the tubular portion "24" a cylinder?

A. The tubular portion "24" is a cylinder, and is to represent the internal bore of the well.

Q.107. You have stated that there is a scratcher "22" mounted on the drum "18." What scratcher is that?

A. That is the scratcher, the same or similar to that used by Mr. Jones, as illustrated in Figure 26, and is similar but not the same one, not the same one as shown in Petitioner's Exhibit M. The scratcher as I view it, that is, the scratcher "22" in Petitioner's Exhibit KK, I believe has thinner wires than does Petitioner's Exhibit M.

Q.108: I hand you a photograph, and ask you if you can identify that photograph?

A. Yes, you have handed me a photograph which in my opinion illustrates the scratcher "22" as shown in Petitioner's Exhibit KK, and is of the same type as used [2642-34] by Mr. Jones, and appears in the photograph, Figure 26, Exhibit I.

Mr. Lyon: I will ask that this last photograph be received in evidence as Petitioner's Exhibit NN.

(Deposition of William A. Doble.)

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit NN, and made a part of this deposition.)

Q.109: (By Mr. Lyon): Now, were tests made utilizing this test rack, and will you describe precisely and in detail the test procedure used, taking, for example, the setup as it is illustrated in Petitioner's Exhibit KK with the particular scratcher of Exhibit NN in the test apparatus?

A. Referring to Petitioner's Exhibit KK, the test stand is shown in position to run the scratcher NN through—I had better not say “through,” but into and down to the lower portion of the tubular member “24” by actuating the operating handle “12.” The first thing that would be necessary to be done is to remove the pin “14” which locks the operating handle from being operated.

Q.110: First let us go back to the other end of it. How is the scratcher mounted, how is the scratcher “22” mounted?

A. The scratcher “22” is mounted on [2642-35] the drum portion “18,” which simulates a well casing, and is mounted between two collars, and two collars I have designated by the numerals “20” for the lower collar and “21” for the upper collar.

Q.111: Is that scratcher free to move vertically on the drum?

A. Yes, the scratcher is free on the drum, can be moved easily by hand from, upwardly from the lower collar “20” until it engages the upper collar

(Deposition of William A. Doble.)

"21." I did so and I rotated it. It was free to either rotate or reciprocate in whichever direction a like force was applied to the scratcher "22."

Q.112: In these tests state whether or not the drum "18" was secured to the rod "8" so as to be secured against rotation relative to the rod "8"?

A. Yes, as I pointed out before, the lock screw "19" was screwed down, and the lock screw had a conical point which entered into a depression in the upper end of the drum "18," so that it positively locked it against any rotation with relation to the reciprocating rod "8."

Q.113: Now proceed with your description of the test. You started to say you were going to pull the pin "14."

A. The pin "14" has now been pulled, and the [2642-36] operator by means of handle "12" can first lower the reciprocating rod, square reciprocating rod "8" until the ends of the wires of scratcher "22" engage the upper open end of the cylinder "24." The wires of the scratchers "22" resist entry into the internal portion of the cylinder "24," because they are of slightly greater diameter, that is, the outer ends of the wires form a greater circular diameter than the internal bore of cylinder "24." So that by means of applying pressure to the operating handle "12" the wires—first of all, the scratcher will rest on the ends of the wires of the scratcher and rest at the upper end of the bore of cylinder "24." Movement of the operating handle will cause the square rod "8" to carry the drum

(Deposition of William A. Doble.)

downward until—downwardly while the scratcher “22” remains stationary, until the upper collar “21” engages the upper face of the scratcher “22,” and by applying sufficient force will then cause the wires of the scratcher to enter the bore of cylinder “24.” Upon further actuation of the operating handle “12” the scratcher with its wires will be caused to move downwardly into the bore of the cylinder “24” until the end of the operating stroke of the handle “12” has been reached. Thereafter the scratcher may be returned to the upper end of the internal bore of the cylinder “24” by [2642-37] reversing the direction of movement of the handle “12.” The first upward movement of the square rod “8” will be free, because the scratcher will remain stationary within the cylindrical bore “24” until the lower collar “20” of drum “18” engages the underside of the scratcher. At this point considerable force will have to be applied through the operating lever “12” to cause the wires to reverse from the bent position they received on entering this cylinder, and during the reversal I observed rotation of the sleeve portion of the scratcher with relation to the cylindrical drum “18” of the reciprocating rod “8.” I would further say—

Q.114: Mr. Doble, right there I hand you a somewhat enlarged photograph of the upper end of the test apparatus, with the scratcher mounted thereon, and ask you if you can identify this enlarged photograph? A. Yes, sir, I can.

(Deposition of William A. Doble.)

Q.115: Were you present when this photograph was taken? A. I was.

Q.116: Tell me what this photograph is?

A. This photograph is similar to Petitioner's Exhibit KK. However, it shows the upper portion of the test apparatus so as to enlarge the scratcher, the drum "18" and the collars "20" and "21," and associated parts [2642-38] of the mechanism. And, as I was going to point out with relation to Petitioner's Exhibit KK, the upper collar or stop ring "21" was provided with graduations, as can barely be seen in Petitioner's Exhibit KK, but can be clearly observed in the photograph which you have handed me, and it will be noted that the zero portion of the graduation has been encircled by a mark so as to make it more evident.

Mr. Lyon: I will offer the photograph last identified by the witness in evidence as Petitioner's Exhibit OO.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit OO, and made a part of this deposition.)

Q.117: (By Mr. Lyon): Now, Mr. Doble, you have described, I believe, fully now the test procedure in reciprocating the scratcher in the test apparatus to observe its operation; is that correct?

A. That is correct, but I did not make one observation which I—we carried on during the testing, namely, we placed a mark on the scratcher, the rim of scratcher "22," and aligned that mark

(Deposition of William A. Doble.)

with zero lead line from the graduations formed around the upper collar or stop ring "21." On the return stroke we observed that the scratcher rotated with relation to [2642-39] the reciprocating drum "18," and the rotation was easily observed by comparing the mark which we had made on the upper ring of scratcher "22" and the graduations of the first collar "21" mounted on the upper end of the reciprocating drum "18."

Q.118: Did you observe in the cylinder the path of movement of the wires, wire ends, and the pattern that they scribed on the inside of the cylinder during these reciprocations?

A. Yes, I did. At first they were very clear and distinct. Later, when we ran a number of tests, the number of lines scribed on the cylinder became quite confused. There were quite a number of them. I observed, first of all, that when the wires were forced into the bore of cylinder "24" they scribed a lead line which was not directly axial with the reciprocation of the square rod "8," and then again I observed that during the downward movement of the scratcher through the cylindrical bore "24" the lines scribed by the ends of the wires were straight, and corresponded with the reciprocating axis of the test mechanism. I also observed the wires and noted the lines scribed by the ends of the wires on the cylinder during the reversal of the stroke, that is, after the scratcher had reached bottom, and the operating lever was [2642-40]

(Deposition of William A. Doble.)

actuated to move the scratcher upwardly in the cylinder. First there was the free motion of the mechanism until the lower collar "20" engaged the under edge of the scratcher. Then it required considerable force to cause the wires to reverse their position, and at which time it was obvious—I mean it could be observed that the sleeve or cylindrical portion of the scratcher "22" rotated with relation to the fixed—that is, the reciprocating drum "18." Upon continued upward movement of drum "18" the lines scribed by the ends of the wires were straight lines, and parallel to the axis of the operating or reciprocating rod "8."

Mr. Scofield: Will you read that answer, please?

(The answer was read by the reporter.)

Q.119: (By Mr. Lyon): Now, Mr. Doble——

A. I might say that we repeated that operation a number of times, and in each instance it was clearly discernible, the increment of rotation of the scratcher with relation to the reciprocating drum "18."

Q.120: Did the wire ends move over to a new path on each reciprocation?

A. Yes, they did.

Q.121: How did the path traced by the ends of the wires in the test which you have described compare with the lines visible between the two words "Barkis" and [2642-41] "Barkis 2" in Exhibit J?

A. They were surprisingly similar; startlingly so, in fact. I was very much surprised.

(Deposition of William A. Doble.)

Mr. Scofield: What exhibit is that?

The Witness: J, Mr. Scofield.

Q.122: (By Mr. Lyon): You repeated that test, I believe, using the scratcher Exhibit M, or one like it?

A. One like it. The one we used had lighter wires. The reason we used lighter wires, we knew the heavy wires would scribe a good clear line, and we were not sure whether the light wires would scribe a sufficiently clear line on the cylinder, so we used the lighter one to try out, to see what type of lines it would scribe and was surprised to find it scribed very clear distinct lines, and therefore we used that test to complete our experiment or test.

(A recess was here taken at 12:00 noon until 2:15 p.m.)

Q.123: (By Mr. Lyon): Mr. Doble, I refer you to the Jesse E. Hall Application Serial No. 627,013, page 8 of that Application, and to a paragraph starting on page 8, line 17, and starting "When the casing is properly centralized," and that paragraph ending on page 9, line 19, and particularly to that portion of that paragraph which reads like this: "The unusual mechanical action of [2642-42] the abrading wires has been determined by mounting a scratcher on a piece of pipe and reciprocating it within a pipe of larger diameter." Is that what you have done here in this test apparatus, that you have identified here, as shown by these photo-

(Deposition of William A. Doble.)

graphic exhibits? A. Yes, it is.

Q.124: That same sentence that I quoted from in the Hall Application Serial No. 627,013, a copy of which I handed you, is also found in the Hall Application Serial No. 55,619, on page 8, a copy of which I handed to you for verification, and the sentence in the second Application starting on line 21 of page 8 and ending upon line 23 of page 8, and reading "The unusual mechanical action of the abrading wires has been determined by mounting a scratcher on a piece of pipe and reciprocating it within a pipe of larger diameter."

That is correct, is it not, Mr. Doble?

A. Yes, it is. That is just what we endeavored to do with the test apparatus which I have described this morning, and is shown in Petitioner's Exhibits MM and LL and RR.

Q.125: I hand you a photostatic copy of what appears to be a catalogue or circular of the Weatherford Spring Company, which is entitled "Weatherford Spring Company, Weatherford Texas. Manufacturers of Spiral [2642-43] Casing Centralizers, Straight Casing Centralizers, Wall Cleaning Scratchers, Cement Retaining Baskets and Industrial Springs. Weatherford makes a science of multiple zone cementing," and I will refer you to page 8 of that catalogue where it states: "Weatherford's Reversible Scratcher crawls for a complete cleaning job. Fig. 5. A Weatherford Scratcher on casing, that is centered by spiral centralizers, has conformed to the pattern of the well

(Deposition of William A. Doble.)

and also has crawled around its entire surface as the casing was reciprocated to remove jelled mud from key-seats and mud cake growth from out of crevices and bit rout-outs. In order to observe this crawling action and also the reversing action of the Weatherford Scratcher, the operator need only shove one into a joint of surface pipe and work it back and forth with the strength of the hands."

That is a correct reading of what is set forth in that catalogue? A. Yes, sir.

Q.126: This movement of the scratcher up and down in the pipe of this demonstration apparatus, how does it compare with the statement that is given there in the catalogue?

A. Well, generally it is the same. It would be more accurate, because it is guided by the [2642-44] reciprocating rod "8" instead of left to the inaccuracies of hand operation without a mechanical guide.

Mr. Lyon: I will ask that page 8 of this Weatherford Spring Company catalogue, rather, a photostatic copy of the copy which I have here, be received in evidence as Petitioner's Exhibit SS. I presume there is no objection to the substitution of another photostat from this photostat I have been using ?

Mr. Scofield: No objection.

(Document referred to was marked by the Notary Public as Petitioner's Exhibit SS, a

(Deposition of William A. Doble.)

photostatic copy of which is made a part of this deposition.)

Q.127: (By Mr. Lyon): Mr. Doble, in this test apparatus, which is that shown by Exhibits KK, OO, LL and MM, did you also reciprocate other scratchers at this same time that these photographs were taken? A. May I have that question?

(The question was read by the reporter.)

The Witness: Yes.

Q.128: (By Mr. Lyon): I hand you a photograph of a scratcher and ask you if you can identify that photograph?

A. Yes, I can identify the photograph you have handed to me as a picture of one of the scratchers made by the B & W Company, and is known as a three and a [2642-45] half inch-Nu-coil scratcher.

Q.129: Was this particular scratcher mounted in this demonstration machine at that same day?

A. It was.

Q. And reciprocated therein?

A. Yes, sir.

Mr. Lyon: I will ask that the photograph of the Nu-coil scratcher identified by the witness be received in evidence as Petitioner's Exhibit TT.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit TT, and made a part of this deposition.)

Q.130: (By Mr. Lyon): Did you observe the

(Deposition of William A. Doble.)

action of the Nu-coil scratcher of Exhibit TT as it was reciprocated in the test apparatus at that time?

A. I did.

Q.131: Will you describe its operation?

A. Referring to Petitioner's Exhibit KK, the top retaining ring "21" was removed from the drum or cylinder "18." The scratcher designated in Petitioner's Exhibit KK by the numeral "22" was removed from the cylindrical surface of the drum "18," and in place thereof the scratcher illustrated in Petitioner's Exhibit TT, which is the three and a half inch-Nu-coil scratcher made by the B & W Company, was placed on the cylindrical [2642-46] surface of the drum "18." The top retaining ring "21" was replaced, and securely fastened in place. The operating handle was actuated to permit the wires of the scratcher, Nu-coil scratcher to engage the bore of the cylinder "24." The handle was operated so as to move the reciprocating drum "18" downwardly while the scraper, the Nu-coil scraper remained stationary with its wires resting on the top surface of the flange "23." I might say that the Nu-coil scratcher was mounted loosely on the periphery of the drum or barrel "18," so that it would freely reciprocate on that barrel, and also would freely rotate on the barrel. After the reciprocating mechanism had moved sufficiently to engage the upper ring "21" with the upper edge surface of the Nu-coil scratcher considerable force was applied to the actuating handle "12," forcing the wires of the scratcher to enter the cylindrical bore

(Deposition of William A. Doble.)

of the cylinder "24," and as those wires entered they progressed slightly around the bore of the cylinder "24," and further movement of the actuating lever reciprocated the Nu-coil scratcher down to approximately the bottom end of the cylindrical member "24," cylinder "24," whereupon the operating handle was reversed in the direction of its movement, first causing the reciprocating drum to slide through the central bore of the Nu-coil scratcher until the lower [2642-47] confining ring or stop ring "20" engaged the lower edge of the Nu-coil scratcher. Then, by applying considerable force, considerably more force to the actuating lever "12," the wires of the Nu-coil scratcher reversed their position, causing the cylindrical body portion of the scraper to rotate.

Q.132: Scratcher?

A. Or scratcher to rotate with relation to the drum "18." That could be observed during the reversal of the reciprocating motion. Then continued motion would progress the scratcher to the upper end of the bore of the cylinder "24," and at that time it could be removed or a second stroke could be taken. In operating the mechanism, the Nu-coil scratcher was adjusted so that the black mark which appears in Petitioner's Exhibit TT on the forward face was placed in alignment with the zero mark on the calibrations formed around the periphery of the upper stop collar "21," and by that arrangement it was able to determine the amount of rotation through which the cylindrical

(Deposition of William A. Doble.)

body of the Nu-coil scratcher moved with relation to the zero reference line, and I will say on the downward stroke and on the upward stroke after it reversed the lines scratched in the cylinder were straight up and down, that is, they were in substantial alignment with the [2642-48] axis of the rotating square shaft number "8"—the reciprocating square shaft "8." The scratcher when it was placed in the manner described was operated several times, and at each reversal, either at the upper end of the stroke or the lower end of the stroke, the cylindrical body of the scratcher could be observed rotating with relation to the reciprocating drum "18."

Q.133: Is the scratcher of Exhibit TT present in the room, Mr. Doble? A. Yes, I believe it is.

Q.134: In response to my last question you have produced and handed me a scratcher.

A. Yes.

Mr. Lyon: I will ask that this scratcher be marked for identification as Petitioner's Exhibit UU.

(Scratcher referred to was marked by the Notary Public as Petitioner's Exhibit UU for identification, and made a part of this deposition.)

Q.135: (By Mr. Lyon): Mr. Doble, these tests——

A. I would like to point out one thing, if I may.

Q.136: All right.

A. Now, as to Petitioner's Exhibit UU, I would

(Deposition of William A. Doble.)

like to call attention to the black mark which appears on [2642-49] the face of the body portion of the exhibit, and show that that same line was on the exhibit when it was photographed as Petitioner's Exhibit TT, and it is the scraper, scratcher used in the test.

Q.137: Is that the indexing mark that you refer to to determine the degree of rotation of this scratcher in the test? A. Yes, sir.

Q.138: Mr. Doble, you were present when these photographs and tests that you have testified to were made. Where were they made?

A. They were made in the backyard of Mr. Wright's residence.

Q.139: That is Mr. Kenneth A. Wright, sitting here? A. That is correct.

Q.140: Who is an officer of the B & W Company that you refer to?

A. Yes, sir, on Van Ness Avenue, I believe.

Mr. Scofield: Which photographs are you referring to, all of them or just this one?

The Witness: These tests.

Q.141: (By Mr. Lyon): These tests that you are referring to, they are all marked on the back to that fact?

A. 139 North Van Ness Avenue, I [2642-50] believe his address is. It is stated on the back of the photographs.

Q.142: Some of them are and some of them are not.

A. Exhibit TT was taken at a later date.

(Deposition of William A. Doble.)

Q.143: It was taken at a later date?

A. Yes.

Q.144: How did the lines which were inscribed by the wires, the ends of the wires of Exhibit TT, and which is also Exhibit UU, compare with the lines inscribed or pattern on the face of the cement core between the words "Barkis 2" and "Barkis" in Figure 27, Exhibit J?

A. They were very similar.

Q.145: Were they straight lines?

A. Yes, they were straight lines, with offsets at the end of the lines where the reversal of motion took place.

Q.146: State whether or not it was only at the time of that reversal of motion that the rotation occurred.

A. Yes, that is correct.

Q.147: At that same time and same place did you test other scratchers?

A. Yes, sir.

Q.148: I hand you another photograph of a scratcher, [2642-51] and ask you if you can identify that?

A. Yes, sir, the photograph which you have handed me was taken the same day in the backyard of Mr. Wright's home, and illustrates the upper portion of the test mechanism, and illustrates a large size cylinder in place of the smaller cylinder "24" of—

Q.149: By "size" you mean diameter?

A. Larger diameter than the cylinder shown in Exhibit KK.

(Deposition of William A. Doble.)

Q.150: All right.

A. And also it shows that the reciprocating drum "18" has been removed, a larger diameter drum placed on the reciprocating rod in its place, and also it shows the mounting of a Nu-coil type of scratcher on the reciprocating drum "18."

Q.151: Did you test this scratcher as shown in this photograph at that time and place?

A. Yes, sir.

Mr. Lyon: I will ask that the photograph just identified by the witness be received in evidence as Petitioner's Exhibit VV.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit VV, and made a part of this deposition.)

Q.152: (By Mr. Lyon): Was there any different operation [2642-52] performed in the testing of this Nu-coil scratcher than in the tests performed on the two scratchers that you have previously testified about?

A. No, the same test was run, and I will say the results were the same.

Q.153: Were the procedures the same in all of these tests? A. Yes, sir.

Q.154: Were the results the same?

A. Yes, sir.

Q.155: What does the drum represent in these tests?

A. The drum "18" in the tests represents the casing which is lowered into the well.

(Deposition of William A. Doble.)

Q.156: Did the wires on the reciprocation of this scratcher transcribe lines on the inside wall of the larger drum which was used?

A. Yes, sir, it did.

Q.157: How did those lines compare with the lines traced by the wires as you have stated in the present tests?

A. Just the same, that is, the lines in between the reversal point at the top of the stroke and the bottom of the stroke, the lines were straight. At the reversal point top and bottom the lines swung out or [2642-53] swung around the cylinder in varying degrees, indicating that the scratcher had rotated and that the wires were moving to a new position and scratching a new series of lines up through the internal surface of the cylinder.

Q.158: Were the lines between the reversal points straight?

A. Yes, they were, and substantially parallel to the axis of reciprocation of the reciprocating rod "8."

Q.159: Was this pipe that was used in this test also a cylinder?

A. The pipe? You mean the part that has the "3B" on it?

Q.160: Yes.

A. Yes, that cylinder was a cylindrical cylinder, with constant diameter bore throughout its length.

Q.161: Did you test other scratchers this same day? A. Yes, we did.

(Deposition of William A. Doble.)

Q.162: I hand you another photograph, and ask you if you can identify that?

A. Yes, sir, I can identify the photograph that you handed me as illustrating the upper portion of the test mechanism similar to Petitioner's Exhibit VV, with the exception that in place of the Nu-coil scratcher, [2642-54] which I might say in Petitioner's Exhibit VV was for a five and a half inch casing, in place of the Nu-coil scratcher, which had been removed, there was placed on the reciprocating drum "18" a form of scratcher which is comparable in all ways except size to Petitioner's Exhibit M.

Q.163: Were you present when this photograph was taken? A. Yes.

Q.164: And it was taken at the same place also?

A. Yes, sir.

Q.165: That is, at Mr. Kenneth A. Wright's backyard? A. Correct.

Q.166: On September 27, 1952?

A. Yes, sir.

Mr. Lyon: I will ask that this photograph be received in evidence as Petitioner's Exhibit WW.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit WW, and made a part of this deposition.)

Q.167: (By Mr. Lyon): Was this structure tested in the same way as in the previous three tests? A. Yes, sir.

(Deposition of William A. Doble.)

Q.168: Did the wires trace lines on the interior [2642-55] of the cylinder?

A. They did.

Q.169: How did those lines so traced compare with the lines traced by the scratchers of the three previous tests that you have testified to?

A. Just the same, varying in minor degree as to the number of wires, and in some cases as to the extent of rotation of these scratcher bodies around the reciprocating drum "18."

Q.170: How did the lines traced in this cylinder by this scratcher compare with the lines which are visible upon the cement core between the words "Barkis" and "Barkis 2" on Exhibit J?

A. Very comparable, very comparable.

Q.171: Did you test other scratchers that same day and at the same time and same place?

A. Yes, I think there was another scratcher tested that same day.

Q.172: I hand you another photograph, and ask you if you can identify that photograph?

A. You have handed me another photograph which was taken September 27 in the backyard of Mr. Wright's home, and illustrates the upper portion of the testing machine as shown in Petitioner's Exhibits VV and WW—no, excuse me, it is smaller. I will have to [2642-56] change that answer a little bit. It illustrates the same testing machine as illustrated in Petitioner's Exhibits VV and WW, with the following exceptions: The large cylinder of Exhibits VV and WW has been removed, and a cylin-

(Deposition of William A. Doble.)

der of smaller diameter, which was the same cylinder as shown in Petitioner's Exhibit KK, and likewise the reciprocating drum "18" was removed, and a smaller reciprocating drum "18," the same as shown in Petitioner's Exhibit MM was placed on the reciprocating rod "8," and fastened so that the reciprocating drum "18" could not rotate with relation to the reciprocating rod "8." The locking means was obtainable by means of locking screw "19." The figures which I have referred to, the numerals which I have referred to appear on Petitioner's Exhibit MM. Mounted on the reciprocating drum or cylinder "18" was a scraper, a scratcher having wires, which at their outer ends were bent in and in an upward direction.

Q.173: How did that compare with the illustration on page 2 of Petitioner's Exhibit E, that scratcher?

A. Generally similar, but smaller in diameter, and likewise it is similar to Applicant's Exhibit 2, but also of smaller diameter. In other words, the scraper mounted—we haven't given that an exhibit number, have we?

Mr. Lyon: I will do it right now. I will offer the [2642-57] photograph last identified by the witness in evidence as Petitioner's Exhibit XX.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit XX, and made a part of this deposition.)

The Witness: —on Petitioner's Exhibit XX

(Deposition of William A. Doble.)

was generally of the type of Applicant's Exhibit 2, but of a smaller diameter, namely, three and a half inch instead of five and a half inch. The scraper was operated——

Q.174: Scratcher?

A. The scratcher was operated in the same manner as the scratchers heretofore testified to, and the same as in the scratchers testified to before, it traveled along straight lines between the reversal points and at each reversal point, that is, the upper reversal point and the lower reversal point, it rotated upon the fixed—that is, the reciprocating drum “18,” which is fixed against rotation, and in each case an index mark was placed on the body of the scratcher, and was set adjacent the zero mark on the index scribe on the upper stop collar “21.” At the reversal point the rotation was noted by comparing the amount of rotation of the index mark of the scratcher with relation to the zero mark on the collar “21.”

Q.175: Did the wire ends of this scratcher trace [2642-58] a pattern or path on the inside of the cylinder? A. Yes, it did.

Q.176: How did that traced path compare with the lines which are visible between the words “Barkis 2” and “Barkis” on Exhibit J?

A. Extremely comparable to it.

Q.177: Now, did you test any further scratchers on that day, and at that place?

A. Yes, I believe we did.

Q.178: I hand you, in that regard, a further

(Deposition of William A. Doble.)

photograph, and ask you if you can identify that?

A. Yes, you have handed to me another photograph which was taken September 27 in the backyard of Mr. Wright's home, and shows the test machine set up as in Petitioner's Exhibit WW, with the exception of a different type of scratcher mounted upon the reciprocating drum "18." In this instance the scratcher mounted on the drum was directly comparable to Applicant's Exhibit 2 here in this deposition.

Q.179: Comparable in what way?

A. Comparable in the extent—comparable in the manner in which the wires extended from the body of the scratcher and were turned upwardly at their outer free ends.

Q.180: Do you know of any difference whatsoever [2642-59] between the scratcher as shown in this photograph and Applicant's Exhibit 2?

A. No, I do not.

Mr. Lyon: I will ask that this photograph be marked in evidence as Petitioner's Exhibit YY.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit YY, and made a part of this deposition.)

Q.181: (By Mr. Lyon): I take it that the scratcher pictured in Exhibit YY was the scratcher there mounted upon the five and a half inch casing?

A. That is correct.

Q.182: Was this scratcher tested?

A. Yes, sir.

(Deposition of William A. Doble.)

Q.183: In the test apparatus as shown in the photograph YY? A. Yes.

Q.184: Was the test conducted in the same or different manner from the test you have previously described? A. Just the same.

Q.185: What was the result?

A. Just the same. The scratcher progressed always in the same direction at the reversal points, and between the reversal points scribed straight lines on [2642-60] the interior or internal bore of the cylinder "2."

Q.186: You say it progressed the same at reversal points. What do you mean by "progressed"?

A. It rotated, that is, the body of the scratcher rotated with relation to the reciprocating drum "18."

Q.187: Did the ends of the wires trace a path on the inner surface of the cylinder?

A. Yes, sir.

Q.188: What was that path as compared with the lines visible on the cement core between the words "Barkis" and "Barkis 2" in Exhibit J?

A. Very, very similar.

Q.189: You have stated that in each of these tests that the scratcher collar rotated with respect to the square shaft. Did it rotate on the improvised cylinder or drum "18," or its larger equivalent?

A. Yes, sir. It rotated with relation to that drum "18," either the larger or the small one, depending upon which was in the machine for the particular

(Deposition of William A. Doble.)

test, and each time the rotation was noted by a reference mark on the body of the scratcher and the index numbers placed on the upper stop ring of the reciprocating drum "18."

Q.190: What did that mean with respect to the [2642-61] lines that were traced in the vertical movement of the scratcher, were they in the same place or different places on the surface of the drum?

A. With each stroke of reciprocation each wire traced a new line spaced from the previous line scribed by it during the previous stroke of reciprocation. In other words, all of the free ends of all of the scratchers progressed at the reversal point in varying degrees, so that the free ends of the wires traced a new line, new vertical line from one reversal point to the next.

Q.191: What does that mean with reference to the covering of the inner surface of that cylinder by the wires?

A. It means that with sufficient number of reciprocations all surfaces of the well bore would be scratched or cleaned by the ends of the wires, even though the ends of the wires themselves were spaced some considerable distance apart.

Q.192: Was there any difference in this respect——

Mr. Scofield: Read that answer.

(The answer was read by the reporter.)

Q.193: (By Mr. Lyon): You mean by that

(Deposition of William A. Doble.)

wherever any of these scratchers operated in a well, don't you? A. Yes. [2642-62]

Q.194: I believe you stated that there was no difference in this as to any other scratchers; is that correct?

A. That is correct, excepting as a matter of degree.

Q.195: And by "a matter of degree," you mean what?

A. I mean that certain of the scratchers rotated a little bit more than the others, but they all rotated, and their rotation was always in the same direction, so that the free ends of the wires continuously covered new surfaces of the simulated well bore or casing "24."

Mr. Lyon: We will take a short recess.

(A short recess was here taken.)

Q.196: (By Mr. Lyon): Mr. Doble, I hand you another photograph, and ask you if you can identify it? A. Yes, sir, I can.

Q.197: Were you present when this photograph was taken? A. Yes, sir.

Q.198: Where was it taken?

A. It was taken out at the studio of Photography Unlimited, 7673 Beverly Boulevard, by Beans Lyon.

Q.199: You are acquainted with Beans [2642-63] Lyon?

A. Yes; I have known him for many years.

Q.200: Who is he?

(Deposition of William A. Doble.)

A. He is the son of Mr. Lewis E. Lyon, counsel for petitioner here.

Q.201: I was not present when this photograph was taken, was I? A. No, you were not.

Q.202: What is this a photograph of?

A. The photograph which I have before me is a picture of one-half of a cylinder, which has an outstanding flange so that it could be mounted in the testing mechanism or machine as shown in Petitioner's Exhibits MM and KK. It is one-half of such a cylinder. The two halves were bolted together, dowel pins were used to bring the two halves into correct alignment. The internal surface of the cylinder, as well as the slight portion of flange adjacent the bore of the cylinder was coated with a black show card paint, which is a very flat dull black, gives a very flat dull black surface.

Q.203: Sometimes called a poster paint, is it not?

A. Yes, and it is rather soft and chalky in consistency, and very easily scratched from a metallic surface such as that of which this cylinder was formed. I have had placed, I don't remember whether I did it, practically all of it I did, had the letter "J" placed on [2642-64] the upper right-hand portion of the face of the cylinder joint.

Q.204: Now, you placed these two halves of this same cylinder, as you have testified, in the test apparatus, and then what did you do?

A. I operated or directed the operation of the test apparatus in the same manner which I have previously described.

(Deposition of William A. Doble.)

Q.205: What was in the test apparatus, a scratcher?

A. A scratcher of the Jones type, and that is why the word "J" is there, and the scratcher was presented here as Petitioner's Exhibit NN. It was mounted on the reciprocating drum "18" in the manner previously described for the other tests heretofore described, the operating handle was operated—first of all, I will say the collar of the scratcher was marked and the mark on the collar of the scratcher was brought into register with the zero mark on the stop collar "21," and the stop collar was not positioned exactly as shown in the figure of the photograph Petitioner's Exhibit MM, because it did not permit as long a stroke as we were desirous of obtaining, so, therefore, we moved the collar down to approximately three-eighths of an inch of the upper surface of the collar body, so that the collar was free to reciprocate on the reciprocating drum "18" and likewise [2642-65] free to rotate about the drum "18."

Q.206: The only thing you did was give it a longer stroke, is that what you mean?

A. That is correct.

Mr. Scofield: Was this the scratcher NN?

The Witness: Yes, Mr. Scofield, it was. We reciprocated the scratcher twice, that is, we caused the scratcher to go down to the bottom of the stroke, return to adjacent the upper end of the cylinder "24," down again to the bottom of the stroke and then out of the cylinder "24."

(Deposition of William A. Doble.)

Q.207: Then what was done?

A. First of all, the scratcher was then removed from the reciprocating mechanism. The cylinder "24" was removed from the test machine. It was taken apart, the two halves were taken up to the photographic studio which I have previously referred to, and photographed.

Q.208: Just a minute, you are referring to MM in answer to a question. There is not any scratcher shown in MM.

A. No; I was referring to the test mechanism and the reciprocating drum "18" and the stop collar "21."

Q.209: What scratcher was used in this operation? A. Oh, the scratcher NN. [2642-66]

Q.210: In this photograph NN, on the inner surface of the cylinder as shown, I mean in this photograph—have I marked it?

A. No, you have not marked it.

Mr. Lyon: I will ask that this photograph just identified by the witness be received in evidence as Petitioner's Exhibit ZZ.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit ZZ, and made a part of this deposition.)

Q.211: (By Mr. Lyon): On this photograph Exhibit ZZ there are on the inner surface of the cylinder some white lines. What are those lines?

A. Those lines are where the black showcase or show card paint had been scratched from the sur-

(Deposition of William A. Doble.)

face, inner surface of this cylinder by the free ends of the wires of the scratcher Petitioner's Exhibit NN.

Q.212: Now, I notice in the bottom of the photograph, by "the bottom," I mean, referring to the end away from the horizontal flange, that the lines go in a sharp point and then progress sideways. What is indicated by that sideways progression?

A. That is the rotation of the scratcher, which was brought about at the reversal point in the reciprocation of the scratcher during its stroke down and [2642-67] up through the cylinder.

Q.213: There are two substantially parallel lines joined in each case by a point. What are the two parallel lines?

A. The two parallel lines represent the scratch mark made by one of the free ends, that is, the free end of one of the wires of this scratcher NN as it progressed down through the cylinder, passed through the reversal point where the rotation took place, and then traced a new line, scratching the paint from the cylinder as it moved upwardly to another sharp point. I will say that the scratcher also progressed first down and then up to near the top of the cylinder, so that most of the wires projected from the cylinder bore, then down to the bottom of the stroke and then finally out, up and out. It was given two strokes, two full reciprocations or four strokes, I might put it, so that there will be no confusion.

Q.214: Now, Mr. Doble, does that Exhibit ZZ,

(Deposition of William A. Doble.)

and the lines traced on the inner surface of the cylinder show exactly the lines traced by the ends of the wires during the reciprocation of the scratcher of Exhibit NN in the test apparatus? A. Yes.

Q.215: State whether this photograph, Exhibit ZZ, [2642-68] accurately portrays both qualitatively and quantitatively the rotation of the scratcher during such reciprocation? A. It does.

Mr. Scofield: I object to that unless "qualitative and quantitative" is explained.

Q.216: (By Mr. Lyon): Do you understand what is meant by "qualitative and quantitative"?

A. Yes, sir. At each end the diversion of the lines from a straight line indicates the path through which the end of the wire took, and by measuring the distance of the vertical line made by a single wire the amount of rotation or degree of rotation can be determined.

Q.217: You have explained to me, have you not, Mr. Doble, that there is a force acting upon the end of each of these wires?

A. Well, if I haven't, there is, during the reversal—principally at the reversal points in the reciprocation.

Q.218: In this particular scratcher how many wires are there? A. There are 30 wires.

Q.219: So that if there is a force of say one ounce at the end of one wire, what is the total force on the scratcher? [2642-69]

A. The total force would be 30 times that, or 30 ounces.

No. 14626

United States
Court of Appeals
For the Ninth Circuit.

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Appellants,

vs.

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Transcript of Record
In Nine Volumes

Volume V
(Pages 2001 to 2504)

Appeals from the United States District Court for the
Southern District of California,
Central Division.

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No. 14626

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(Deposition of William A. Doble.)

Q.220: What does that mean with respect to the rotation of this scratcher?

A. That the scratcher would rotate against a force of 30 ounces at a three—one and three-quarters radius.

Q.221: Why do you say “one and three-quarters radius”?

A. Which is half the diameter of the scratcher body. It is three and a half, I may have figured that wrong.

Q.222: One and three-quarters is half of three and a half, I will take your word for it. You mean by one and three-quarters then that is the length of the lever arms through which the force is operated; is that correct?

A. That is true. Yes, I believe that the sideways thrust at the reversal point is a factor or a value very much higher than an ounce, but whatever it is it is multiplied substantially 30 times. All wires will not have exactly the same thrusting value, but I would say it would be approximately 30, because there are 30 wires, and assuming they all operated to the same degree in sideways thrust, you would get 30 times the [2642-70] thrust of any one wire.

Q.223: That is, there are 30 wires in the scratcher of Exhibit NN?

A. Yes.

Q.224: But in the scratcher like Applicant's Exhibit 2, and the corresponding scratcher shown, for example, in Exhibit YY, there are 50 wires, I believe?

A. That is correct.

(Deposition of William A. Doble.)

Q.225: So that the factor in that case would not be 30, would it?

A. It would not be 30, it would be 50, and it would operate through a very much greater lever arm, because the diameter of the scratchers which you have referred to, Applicant's Exhibit 2 and Petitioner's Exhibit YY, is five and a half inches in diameter, and that would give you a two and three-quarter-inch lever arm, which in turn represents a very much higher rotational force acting to rotate the body portion of the scratcher with relation to the casing upon which it is mounted.

Q.226: Now, Mr. Doble, you have here in the room——

A. I might point out, Mr. Lyon, also, that that sideways motion I referred to as the scratcher entered the bore of the cylinder is very clearly depicted in Petitioner's Exhibit ZZ by the angle line that extends downwardly from the top surface of the flange and [2642-71] the line from the very top. It swings downwardly to the right and then slightly to the left and then makes a straight line. That is the adjustment of the scratcher itself to the compressing of the wires into a slightly smaller bore, and it causes some rotation, as is observed there in that particular portion of the exhibit.

Q.227: Now, Mr. Doble, I hand you another pair of photographs, on the flange of which there is marked in each case a "2," numeral "2," and I will ask if you can identify these photographs? If you can, will you tell me what they are?

(Deposition of William A. Doble.)

A. Yes.

Q.228: Were you present when they were taken?

A. I was not present when these photographs were taken. However, I directed the manner in which they should be taken, and they were taken by the same photographer, that is, Mr. Beans Lyon of Photography Unlimited, and were taken of a cylinder which I had directed the preparation of and had taken out to the studio of the Photography Unlimited.

Q.229: You mean you had taken the two halves of the cylinder shown in these two photographs to the studio? A. Yes, sir.

Q.230: For the purpose of having the [2642-72] pictures taken? A. Yes.

Q.231: And had previously instructed the manner in which the pictures were to be taken?

A. Yes.

Q. 232: And then the pictures were delivered to you? A. Yes, sir.

Q.233: Of what are these two pictures taken?

A. These two pictures are taken of a large cylinder. It was nine and I believe five-eighths inches in diameter, that is, the internal diameter. The cylinder was constructed so that it could be taken apart, so that you have two halves. One half is represented in each of the photographs. The inner surface and a slight portion of the flanges was painted with the same black show card paint. The cylinder was assembled, dowel pins were put in to insure correct measurement. The cylinder was then

(Deposition of William A. Doble.)

painted. The paint was permitted to dry. The cylinder was mounted in the testing machine of Petitioner's Exhibit KK and others we have previously referred to, and a scratcher substantially identical to Applicant's Exhibit 2 was placed in the machine.

Q.234: Where was that scratcher obtained from?

A. That scratcher was obtained from stock, out of stock at the warehouse or plant of the [2642-73] B & W Company in Long Beach. The scratcher was mounted on a test apparatus, was operated to cause two full reciprocations, in other words, four strokes, after which the scratcher was removed, the cylinder was removed from the test stand, taken apart, and brought up to the studio of the Photography Unlimited for the taking of pictures.

Q.235: As far as you could tell was there any difference whatsoever between the scratcher used in this test and Applicant's Exhibit 2?

A. No; there wasn't, as far as I could tell. I examined both rather carefully. As far as I could tell they were identical.

Q.236: These two photographs then are photographs of what?

A. These are photographs of the path scribed of each of the wires of the scratcher similar to Applicant's Exhibit 2 through two full reciprocations, so that the free ends of the wires scratched or scribed on the inner surface of the cylinder the path they traveled during those two reciprocations. I would have taken more reciprocations in the several ex-

(Deposition of William A. Doble.)

periments, excepting that there would then be so many lines it would be hard to distinguish the path of one wire from another, so in most cases I limited the travel or the reciprocations to two full reciprocations, so that we could identify as [2642-74] nearly as possible the path of each wire. Now, putting these two together and comparing these two photographs there, the character at the lower end of each of the scribed lines, that is where the scribed lines traverse sideways from the vertical. If we could identify these photographs with an exhibit number——

Mr. Lyon: I am going to do that right now. I will ask that the two photographs identified by the witness be received in evidence as Petitioner's Exhibits AAA-1 and AAA-2, and I will ask that they be marked as I have marked them, AAA-1 and the other photograph as AAA-2.

(Photographs referred to were marked by the Notary Public as Petitioner's Exhibits AAA-1 and AAA-2, respectively, and made a part of this deposition.)

Q.237: (By Mr. Lyon): Now, proceed, Mr. Doble.

A. Referring again to the photographs which you have handed to me, and pointing out first in Petitioner's Exhibit AAA-1 the rather sharp abrupt character of the sidewise travel of the ends of the wires in the lower portion of the stroke as compared to the more or less rounded or smooth side-

(Deposition of William A. Doble.)

ways travel of the wires appearing here on the right-hand half of Petitioner's Exhibit AAA-2. In each instance, or in each of these exhibits it will be noted that there are both characters [2642-75] of sidewise movement of the wires, clearly illustrating all of the wires do not travel in exactly the same manner when the reversal takes place.

Q.238: State whether or not it is true, Mr. Doble, that each wire on each of these exhibits had its own independent handwriting?

A. That is correct. In this cylinder I particularly noted the rotation at the end of the first stroke. It was three-eighths of an inch at the end of the first reciprocation. It was three-eighths of an inch, and at the end of the second rotation the scratcher moved one-quarter of an inch further, making a total rotation of five-eighths of an inch.

Q.239: In two strokes?

A. In two strokes.

Q.240: Will you take this photograph and trace in Exhibit AAA-2 a line traced by one wire. It might be well to mark at the upper edge of the photograph just where you start, just the word, "Start."

A. I am trying to pick out a wire that is very clear, and not—that is, a wire scratch mark that is clear and does not overlap one of the other wire scratch marks. I will mark the start of a wire which is almost in the central portion of the photograph Petitioner's Exhibit AAA-2. Now, shall I put little ink [2642-76] marks across?

(Deposition of William A. Doble.)

Q.241: No. See if you can mark at the bottom just the word "Bottom" of that same wire, and then up on the next stroke the word "Up" at the top of it. Can you?

A. Well, I will mark down here the bottom of it, where it starts up.

Q.242: I see.

A. It comes down, loops over to the right and progresses upwardly, and overrides one of the other lines scribed on the cylinder, and I will mark the upper end "Upper End." It then progresses downwardly, and two wires appear to be overlapping at this particular point to the bottom where I will mark another "Bottom."

Q.243: Bottom 2.

A. "Bottom 2," and then comes up.

Q.244: Then mark the word "Out."

A. I will mark the word "Out." It is not too clear, just the "Out" part, because the two lines sort of overlapped, but I have marked the point where I believe it came out, although I might be——

Q.245: You are not certain of the tracing of the last line?

A. Well, I am not too—I have marked it over to the one that sort of wiggles up near the [2642-77] top as "Out." I think that is where that particular wire came out.

Q.246: The magnitude of the distance between the two parallel paths is indicative of what, Mr. Doble?

A. Indicative of the rotation of the body of the

(Deposition of William A. Doble.)

scratcher around the reciprocating drum "18," and if proper proportions were taken into consideration for the photograph they would appear to be approximately three-eighths of an inch, because that was the rotation which I noticed on the collar for the first reciprocation.

Q.247: Now, Mr. Doble, you have produced, or there has been brought into this room two half cylinders? A. Yes, sir.

Q.248: I will ask you to place those up here, and tell me what they are. You have produced two half cylinders, Mr. Doble. What are they?

A. These are the cylinders from which Petitioner's Exhibits AAA-1 and AAA-2 were made, that is, these cylinders were photographed, and those photographs are the Petitioner's Exhibits AAA-1 and AAA-2.

Q.249: This poster paint that is on here is quite easily removed, is it not, Mr. Doble?

A. It is, soft and chalky like.

Mr. Lyon: We will have to request everyone to keep [2642-78] their fingers off of it.

The Witness: Also that the bright metal surface has a tendency to rust, and moisture from the finger might cause the bright lines as they now appear to become rusty.

Mr. Lyon: I will ask that these two cylinders be marked as the Petitioner's Exhibits BBB-1 and BBB-2 for identification.

I might explain that in the marking of these things for identification instead of offering them in

Deposition of William A. Doble.)

vidence that I am doing that with the purpose and
ntent of producing the devices at the final hearing,
ut I believe that they would be better preserved
n my custody than perhaps in the Patent Office's
ustody, and unless the Applicant's counsel has an
bjection, that they may be retained in my custody.
n each case photographs of the articles I have
ffered in evidence. Have you any objection?

Mr. Scofield: Let me first understand what these
wo halves of the cylinders are. Are these supposed
o be photographed in Exhibits AAA-1 and AAA-2?

Mr. Lyon: Correct.

Mr. Scofield: They are the photographs?

The Witness: Correct.

Mr. Scofield: Well, I have no objection [2642-79]
o you keeping them in your custody, as far as I
m concerned.

(Articles referred to were marked by the
Notary Public as Petitioner's Exhibits BBB-1
and BBB-2, respectively, for identification, and
thereupon returned to Mr. Lyon.)

Q.240: (By Mr. Lyon): Mr. Doble, with re-
spect to these cylinders, and also with respect to the
photographs AAA-1 and AAA-2, the cylinders being
BBB-1 and BBB-2, I notice that the scratched lines
start on an inclined upslope. Can you explain that?
Why don't they all start at the same point?

A. I can explain that very simply by referring
o Applicant's Exhibit 2. It will be noted that the

(Deposition of William A. Doble.)

wires each are in banks of 10. There are five banks, and each bank progresses from adjacent the upper edge of the scratcher body downwardly to approximately the lower edge of the scratcher body. It is a progressive series of wires which are spirally related to the body of the scratcher.

Q.251: Now, Mr. Doble, in these scratchers that you have tested, will you state how the wires are attached to the collars? Are they attached firmly or flexibly or in what manner?

A. You are referring to Applicant's [2642-80] Exhibit 2 and Petitioner's Exhibit M and Petitioner's Exhibit UU and Petitioner's Exhibit A. Yes, the wires, all of those wires are flexibly mounted on the body portion of each of the scratchers.

Q.252: That is, they are flexibly attached to the rings?

A. Yes, that is correct, quite flexibly attached to it.

Q.253: Do each of those wires have a sidewise inclination with respect to the extended radius of the collar?

A. May I have that question?

(The question was read by the reporter.)

The Witness: Yes, to more or less. As we view the different scratchers we have here referred to, for example, in Petitioner's Exhibit M, there is a very marked sidewise direction or inclination of the wire, whereas in Applicant's Exhibit 2 there is a lesser sidewise inclination of the wire.

(Deposition of William A. Doble.)

Q.254: Will you set forth where the sidewise inclination of the wire in Exhibit 2 is found?

A. That is really difficult, Mr. Lyon, because they are not all exactly the same.

Q.255: I didn't say the amount. What I said was: Where is it found? [2642-81]

A. Oh, it is found where the portion of the wire which is bent approximately to correspond to the outer periphery of the body portion of the scratcher engages the periphery of the scratcher. In most cases it is a considerable distance toward the anchor point from where the wire projects outwardly between one of the guide bars.

Mr. Lyon: Read the answer.

(The answer was read by the reporter.)

Mr. Scofield: Read the question now.

(The question was read by the reporter.)

Q.256: (By Mr. Lyon): I am handing you a wire, Mr. Doble, and ask you if you will compare that wire with the wires of Exhibit 2.

A. Yes, sir.

Q.257: You have done it? A. I have.

Q.258: How does it compare and how does it differ?

A. Well, it differs very slightly and immaterially at the end which projects through one of the guide bars, and the bend is not quite as sharp as shown in Applicant's Exhibit 2. It appears to have closely the same radius for the arcuate part which extends

(Deposition of William A. Doble.)

from the attaching end, which I previously referred to, to the radius of the bend from which the wire extends at an [2642-82] angle from the arcuate portion.

Q.259: The straight portion is longer, too, in the wire I gave you?

A. Yes, sir; that is correct, and not bent up at its free end.

* * *

Q.261: (By Mr. Lyon): These wires were made of spring steel? A. Yes.

Q.262: And when you form an article from spring [2642-83] steel you have to form them beyond the desired point and expect them to return to it; isn't that correct?

* * *

Q.263: (By Mr. Lyon): Observing the wire in Applicant's Exhibit 2, do you find the wires identical in Exhibit 2? There are 50 wires there.

A. Yes, they are identical; well, with slight differences, due to the character of the wires. Spring wire is a rather cranky material to deal with, and there are little variations in the angle from which the wires project from the body portions of the scratcher.

Q.264: State whether those differences are or are not the differences that you would expect as a mechanical engineer in wires of this character made of spring steel, even though made from the same die?

A. That is correct. Our scratchers which we have

(Deposition of William A. Doble.)

before us are the same way. There is a certain degree of difference in each of the wires from each other.

Q.265: Now, my previous question, the one that you [2642-84] could not understand and Mr. Scofield——

Mr. Scofield: All counsel could not understand.

Q.266: (By Mr. Lyon): ——is merely: Are the deviations in the separate wire that I hand you greater or less than you would expect in the wire, even though it had been made from the same die as the wires in Exhibit 2? A. No.

Mr. Scofield: I object to that as calling for a conclusion of the witness.

The Witness: Such difference as there is is minor, and might be expected in handling a piece of spring steel such as the wire which you have handed me.

Q.267: (By Mr. Lyon): In stating your fact that Exhibit 2 wires had a sidewise inclination, you refer to a particular bend in the formation of that wire as the point of that deviation or the sidewise inclination. Can you more easily illustrate that point from the separate wire that I hand you?

A. Yes. I can define that point as being located between the arcuate section of the wire and the straight portion of the wire bent on a radius from that arcuate portion.

Mr. Scofield: Would you read that question and answer, please?

(Deposition of William A. Doble.)

(The record was read by the [2642-85] reporter.)

Mr. Lyon: I will offer the wire, which the witness just used in his last answer, in evidence as Petitioner's Exhibit CCC. [2642-86]

* * *

Q.272: Mr. Doble, I hand you a photograph showing a ring and two wires, one wire which is like the wire, Exhibit CCC, and one wire of which has a double bend in it after it leaves the point spaced away from the ring, the two points of the wires at their outer end coming to approximately the same point spaced from the ring. Assuming that the first wire, the one with the double bend, the one portion extending coincidental with a radius extending from the ring, would there be any difference in resultant effect were a thrust imposed upon the end of the two wires? A. No.

Mr. Scofield: I object to that as calling for a conclusion. There has been no foundation laid for the hypothetical case that has been proposed to the witness. Insofar as my recollection serves me there is nothing in this record to indicate or show what those forces might be or are.

Q.273: (By Mr. Lyon): Your answer is "No"?

A. That is correct. I have already answered.

Q.274: Explain why.

A. Because the thrust is applied to the free ends of the wires in substantially the same location with [2642-89] relation to the center of the cylinder about which the wires are placed, and each of the

(Deposition of William A. Doble.)

wires extends angularly from an extended diameter of the collar, so that in each case you get the same effective lever arm upon which this thrust acts, so that the same forces would be applied to its endeavor to shift or rotate the cylinder, whether you used the wire with the straight portion extending from the periphery of the collar or the wire having the bend in the two straight portions as it extends from the collar.

Mr. Scofield: I further object to the question and answer again, that there is no showing as to how these two wires or either are fulcrumed to the collar, nor how the force is imposed at the end of the wire.

Q.275: (By Mr. Lyon): Now, Mr. Doble, taking Exhibit M, in Exhibit M you have a wire having two straight portions connected with a bend after the wire has left the collar; is that true?

A. That is true, sir.

Q.276: In that respect they are somewhat similar to the two wires in the photograph I have before you?

Mr. Scofield: That is objected to as leading.

Q.277: (By Mr. Lyon): Isn't that correct?

A. Yes, that is correct.

Q.278: The question is: Would it make any difference at all in the operation of Exhibit [2642-90] M if a wire was extended from the point where the bent wire leaves the periphery out to the same point and same welded button on the end as is accomplished by the double bend of the wire in Exhibit M?

(Deposition of William A. Doble.)

The Witness: There would be no difference in the effect of applying the pressure on the end of either of the wires. In fact, it does not make any difference how many bends are placed in the wire, as long as it finally reaches the same point at which the pressure is applied upon the straight wire. The mechanical forces would be identically the same.

Mr. Lyon: I will ask that the photograph used by the witness showing the two wires be received in evidence as Petitioner's exhibit next in order.

* * *

Q.279: (By Mr. Lyon): Mr. Doble, in making tracings, [2642-91] wire tracings of the different scratchers to determine their relative rotation and rotative effect, did you make such tracings of scratchers other than those illustrated by Exhibits AAA-1 and ZZ, and in that regard I will hand you a set of pictures, and ask you if you can identify those?

A. Yes; the two photographs which you have handed me I can identify as photographs of the two halves of a cylinder which was used in the test machine to trace the lines of a Nu-coil type of scratcher.

Q.280: What size?

A. Three and a half inch.

Q.281: Will you just explain fully what these photographs show and what was done in this test? First, let me ask you, do these photographs indicate the two halves of the cylinder of the same test?

A. Yes, they do.

(Deposition of William A. Doble.)

Q.282: The test that was performed under your supervision? A. Yes.

Mr. Lyon: I will ask that the two photographs be received in evidence as Petitioner's Exhibits EEE-1 and EEE-2.

(Photographs referred to were marked by the Notary Public as Petitioner's [2642-92] Exhibits EEE-1 and EEE-2, respectively, for identification, and made a part of this deposition.)

Mr. Scofield: I will object to the offer unless some explanation is made as to the pertinency of this pattern shown here made by a Nu-coil scratcher. I don't see that it has any relationship to the issues in the proceeding in which these depositions are being taken.

Q.283: (By Mr. Lyon): Let me ask you this question before you start to answer: Where was the Nu-coil scratcher obtained from that was used in this test?

A. From the stock contained in the warehouse of the B & W Company in Long Beach.

Q.284: That was a regular Nu-coil taken out of stock then?

A. Yes, sir. The two halves of the cylinder shown in Petitioner's Exhibits EEE-1 and EEE-2 are provided with side flanges. The cylinder was assembled together by means of the side flanges, bolts and taper pins to insure the proper alignment of the two halves. The flange portion of the cylinder was

(Deposition of William A. Doble.)

mounted upon the annular ring "4" of the test stand——

Q.285: Shown in Exhibit N?

A. ——shown in Petitioner's Exhibit LL, in the manner shown there and in Petitioner's Exhibit KK, and was secured, mounted therein by means of the stud "17" and [2642-93] wing nuts "25." Before the cylinder was mounted in the test stand, however, the internal surface of the cylinder was cleaned from a previous operation of the paint which was at that time upon the inner surface of the cylinder, and was ground out to make it perfectly smooth. Thereafter the cylinder was repainted, allowed to dry, and mounted in the test stand as I have previously stated.

Q.286: What paint was used?

A. The same type of paint was used in all of the tests which we have referred to so far, namely, the kind that is sold in the stationery stores for show card or show poster work. It is black, has a black dull finish. The Nu-coil scratcher, Petitioner's Exhibit UU, was mounted on the reciprocating drum "18" in the manner previously described, so that it was provided with a limited reciprocatory motion on the drum "18" and was free to rotate on the drum. The next operation was to adjust the black line which appears on the side face of the Nu-coil scratcher in register with the zero mark on the graduations of the stop collar "21." The pin "14" was removed from the front leg of the test

(Deposition of William A. Doble.)

stand to permit the operating handle "12" to be actuated. The first movement of the handle——

Q.287: Before you do that, how was the [2642-94] drum positioned, the drum "18" in this?

A. The drum "18" was mounted upon the reciprocating rod, square reciprocating rod "8," and was locked against rotation by means of the lock screw "19" so that the reciprocating drum "18" could not be rotated with relation to the reciprocating rod "8" or its relation with the cylinder "24." The first movement of the operating handle brought the wires, or the free ends of the wires into engagement with the upper surface of the flanged portion of the cylinder "24," and the Nu-coil scratcher rested in that position until the upper stop collar "21" engaged the upper edge of the cylindrical body of the scratcher. The wires of the scratcher resisted entry into the bore of the cylinder, and that force was overcome by actuating the operating handle "12." The initial movement of the wires as entered the bore of the cylinder "24" took a sidewise motion, as is most clearly—as can be most clearly observed in Petitioner's Exhibit EEE-2. Would you like to have me mark that, Mr. Lyon?

Q.288: Yes, you might mark that.

A. I will mark it on one of the lines in Petitioner's Exhibit EEE-2, the line made by the wire which appears almost central of the internal bore of the cylinder, and I will mark that "Start," and that sidewise [2642-95] motion of the ends of the wire was caused by crowding the wires into the bore

(Deposition of William A. Doble.)

of the cylinder. The line from the sidewise motion then traverses downwardly in a straight line until it reaches the bottom of the stroke, which I will designate "Bottom."

Q.289: Just before you go further than that, Mr. Doble, at the point that you marked on Exhibit EEE-2 the word "Start" there is also a substantially parallel line immediately to the right of that. Does that indicate the similar motion of the immediate upper wire of the Nu-coil scratcher?

A. Yes, sir; it does.

* * *

The Witness: It does.

Q.290: (By Mr. Lyon): Will you mark that "Start 2" then? A. Yes, sir.

Q.291: That is, in these Exhibits EEE-1 and EEE-2 the trace lines do not come a uniform distance from the bottom of the cylinder, but some of them stop, oh, about a few inches above the others. What is the reason for that?

A. The reason for that is the spacing of the wires on the cylindrical body of the scratcher. The wire which I have marked "Start"—maybe I had better mark that "Start 1." [2642-96]

Q.292: All right.

A. That line which I have marked "Start 1" was traced by a lower wire, and the mark which was traced by the end of the wire which I have designated by the words "Start 2" is by the upper wire, which is nearly directly above the lower of

(Deposition of William A. Doble.)

the two wires, so that in each case you will get two series of lines scratched in the cylinder which are very closely spaced and are very similarly related. Continuing my former answer, I had just indicated the bottom of the line at the lower end of the down stroke of the scratcher through the cylinder, and I would like to label that "Bottom 1." That was the lowest point to which we could traverse the scratcher down through this cylinder. The operating handle "12" was then actuated to move the cylinder upward. However, the first movement of the actuating or operating handle "12" did not move the scratcher, but did move the square reciprocating rod and its fixed drum "18" until the lower stop collar "20" engaged the underside of the scratcher body. at which time considerable force was required to reverse the angle which had been placed in the wires during their initial insertion in the bore of the cylinder, and it will be observed from the point which I have marked "Bottom 1" the line traced by that particular wire swings sideways to the left in a fair radius, and [2642-97] then the wire traces a straight vertical line, which I will mark "Up-stroke." That loop showing at "Bottom 1" and the commencement of the straight line of the upstroke is the point at which the rotation of the collar with relation to the reciprocating drum "18" takes place.

Q.293: Is that the point of so-called reversal?

A. That is the point of the so-called reversal. From that point the line extends upwardly to a point which I will mark "Top of Stroke."

(Deposition of William A. Doble.)

Q.294: "Top of Stroke 1."

A. "Top of Stroke 1." It is really the top of Stroke 2, it is the first complete reciprocation, so I will mark it "Top of Stroke 2."

Q.295: Then you have got it confused with the other wire. That is why I didn't use the word "2."

A. One is "Stroke" and the other is "Start."

Q.296: All right.

A. I think it is quite clear when you observe the photograph.

Q.297: "Top of Stroke 2, Wire 1."

A. I will put "Wire 1," so that there will be no confusion. That is the highest point to which we forced the scratcher up the bore of the cylinder. At that point we reversed the rotation of the reciprocating mechanism, and the first part of the reciprocation was [2642-98] very easily obtained, because the reciprocating cylinder traveled through the scratcher which remained fixed in position within the bore of the cylinder "24" until the upper stop collar "21" engaged the upper edge of the body portion of the scratcher. Thereafter it took considerable force to cause the reversal of motion of the scratcher, and during that reversal the wires traced a further sidewise motion, as clearly seen, following the point which is marked "Top of Stroke 2, Wire 1." Thereafter, during the down stroke that particular wire inscribed on the inside of the cylinder a straight downwardly directed line until it reached the bottom, which I will mark "Bottom 2, Wire 1," and the reversal of motion again took place,

(Deposition of William A. Doble.)

and again the sidewise motion can be clearly observed in the photograph, and thereafter the scratcher was pushed upwardly or lifted upwardly until it left the cylinder, as can be seen. I will mark the end of the stroke, the end of the wire, let's see now, I will mark that "Wire 1 leaving cylinder."

Q.298: "Wire 1 Out" would be easier.

A. "Wire 1 Out" would be better, "Wire 1 Out." Each of the other wires of the scratcher scribed a similar line in the cylinder. Some have slight deviations, some the reversal is traced by sharp sidewise offsets, such as clearly observed in Petitioner's Exhibit EEE-1, [2642-99] especially in the lower end of the scribed line appearing in that particular photograph. Each wire is individual in itself, and scribes its own characteristic line during the reciprocation of the scratcher in the cylinder.

Q.299: What accounts for the difference in the path scribed by the different wires, Mr. Doble?

A. It depends upon the spring mounting, the particular angle from which they leave the scratcher, and I am not too sure what else causes it. It is just their particular characteristic of operation. They are all slightly different and no two are exactly identical. However, many do scribe very similar paths during the two reciprocations of the scratcher through the cylinder. In making the two reciprocations I observed the rotation of the collar of the scratcher body with relation to the reference mark at each time a reversal of direction was made. It was clearly visible that the collar of the scratcher ro-

(Deposition of William A. Doble.)

tated, that is, the collar of the scratcher or its body portion rotated with relation to the reciprocating drum "18."

Q.300: Mr. Doble, in Exhibits EEE-1 and EEE-2 in what direction do the vertical lines extend?

A. They extend parallel to the reciprocating axis of the square rod "8." [2642-100]

Q.301: Now, I hand you two additional photographs marked "W," and I will ask you if you can identify these?

A. Yes, sir. I can identify the two photographs which you have handed me.

Q.302: What are they?

A. They are photographs of the same cylinder which I have testified to with relation to Petitioner's Exhibits EEE-1 and EEE-2 after a further test had been run on these particular cylinders.

Q.303: On each cylinder is marked the letter "W." What does that mean?

A. That indicates it is a Weatherford type of scratcher or Weatherford scratcher was used in scribing the lines of the two photographs with the letter "W" in the upper right-hand corner.

Q.304: What size was this?

A. This was the same cylinder, the same size, and was the same cylinder as shown in Petitioner's Exhibits EEE-1 and EEE-2.

Q.305: What size scratcher?

A. It is a three and a half-inch scratcher.

Q.306: A three and a half-inch Weatherford scratcher?

A. Yes, sir.

(Deposition of William A. Doble.)

Q.307: For three and a half-inch casing, you mean? [2642-101] A. That is right.

Q.308: Is there any illustration of that scratcher here? A. I don't think so.

Mr. Lyon: We had better mark the two "W's" as Petitioner's Exhibits FFF-1 and FFF-2. This will be FFF-1.

The Witness: That is with the line above the "W."

Mr. Lyon: And the other one will be FFF-2.

(Photographs referred to were marked by the Notary Public as Petitioner's Exhibits FFF-1 and FFF-2, respectively, for identification, and made a part of this deposition.)

Q.309: (By Mr. Lyon): I have handed you another photograph, Mr. Doble, which I will ask be marked GGG, and ask you if you can identify the photograph which is marked GGG?

A. Yes, sir; I can.

(Photograph referred to was marked by the Notary Public as Petitioner's Exhibit GGG, and made a part of this deposition.)

Q.310: (By Mr. Lyon): What is shown in this photograph?

A. It is a photograph of the 3½-inch Weatherford scratcher which we used in the test. [2642-102]

Q.311: In which test?

A. In the test which produced the scribed cylinder, Petitioner's Exhibits FFF-1 and FFF-2.

(Deposition of William A. Doble.)

Q.312: Was precisely the same test procedure followed with the scratcher of Exhibit GGG in producing the cylinder traced lines of Exhibits FFF-1 and FFF-2 as was followed in the test producing the described lines?

A. Yes, sir. I might add, too, also the tests of the Jones type. In each of those four tests exactly the same procedure was followed, the same cylinder was used. Each time a test was made the cylinder was ground out, repainted and remounted in the test structure for use in making the scribed lines in the cylinders relating to those respective tests.

Mr. Lyon: I offer in evidence at this time Petitioner's Exhibits GG, EEE-1 and EEE-2 and FFF-1 and FFF-2.

* * *

Q.213: (By Mr. Lyon): I hand you a scratcher, Mr. Doble, and ask you if you can identify this?

A. Yes. You have handed me a Weatherford scratcher, and it is one which we used in making the test which produced the scribed lines on cylinder "24" and each half of which is shown in Petitioner's Exhibits [2642-103] FFF-1 and FFF-2. Each of those cylinders in the upper right-hand portion bears the letter "W."

Q.314: Is that the scratcher shown in Exhibit GGG? A. It is.

Mr. Lyon: I will offer the scratcher just identified in evidence as Petitioner's Exhibit HHH.

(The scratcher referred to was marked by the

Deposition of William A. Doble.)

Notary Public as Petitioner's Exhibit HHH and made a part of this deposition.) [2642-104]

* * *

Q.315: Mr. Doble, before you is a piece of apparatus. Can you identify it?

A. Yes; the piece of apparatus that stands before me is the test stand which I have testified to heretofore, and is shown in a number of the exhibits, photographic exhibits, and the exhibit numbers which I do not remember completely, but the stand is shown in Petitioner's Exhibits KK, LL, and MM, as well as many of the other exhibits which the Petitioner has placed in the record. [2642-105]

Q.316: Is this the stand on which these tests or race line determinations were made?

A. Yes.

Q.317: In this stand that is before you there is a cylinder upon the outer portion of which there is a number. Can you read that number?

A. Yes, I can. The number is 3B.

Q.318: Do you recall when that number was placed on that cylinder? A. Yes.

Q.319: When?

A. The number was placed on the large cylinder September 27th, the day that the photographs were taken in the back——

Mr. Scofield: What year was that; 1952?

The Witness: 1952, the day the photographs of the test machine were taken in the back yard at Mr. Wright's home in Los Angeles.

(Deposition of William A. Doble.)

Q.320: (By Mr. Lyon): And this is the same cylinder that was used in those first determinations or tests made in Mr. Wright's back yard on September 27, 1952; is that correct?

A. It is correct, excepting that it is one of the cylinders. The cylinder is $9\frac{7}{8}$ -inch inside diameter. We also had another cylinder, a smaller [2642-106] cylinder, which was 6 and, I beleive, $\frac{7}{8}$ inches in diameter, internal diameter, and on that smaller cylinder you placed the numeral "2," and I believe in the one photograph "2A," which clearly appears on some of the photographs showing the test machine with that particular cylinder mounted upon it.

Q.321: Has this apparatus been modified in any way since these tests were made as shown by the exhibits in evidence, Mr. Doble?

A. No; it has not been modified in any way. However, during those tests the internal bore of the cylinder was badly scratched up by the ends of the wires, and those scratch marks have been ground out of this cylinder.

Q.322: Is that the only change that has been made in this apparatus?

A. Yes, to my knowledge.

Mr. Lyon: I will ask that the apparatus be marked Petitioner's Exhibit III for identification.

(The apparatus referred to was marked by the Notary Public as Petitioner's Exhibit III for identification.)

(Deposition of William A. Doble.)

Mr. Lyon: We can go back downstairs.

Mr. Scofield: I would like to ask him one question. You see on the flat top of that cylinder a label, do you [2642-107] not?

The Witness: Yes, sir.

Mr. Scofield: That is marked "Cylinder No. 4, 95/8 i.d."

Witness: "97/8."

Mr. Schofield: "97/8 i.d.?"

The Witness: "Straight cylinder."

Mr. Scofield: What was the "No. 4"? Why was it No. 4? You indicate there were only two of these cylinders.

The Witness: There were only two of the metal cylinders that we used in the Petitioner's exhibits, photographs of which have been put in evidence. The other cylinders were not, the exhibits of which have not been put in evidence.

Mr. Scofield: What were the cylinders, the two cylinders that were put in evidence, No. 4?

The Witness: One was No. 4. I don't remember the number of the smaller cylinder.

Mr. Scofield: But there are four cylinders that go with the machine?

The Witness: No, it is either one of the two, whichever you want. There were four cylinders used in Mr. Wright's back yard, as I [2642-108] remember it.

* * *

Mr. Lyon: I will offer this photostatic copy in evidence as Petitioner's Exhibit JJJ.

(Deposition of William A. Doble.)

(The document referred to was marked by the Notary Public as Petitioner's Exhibit JJJ, and made a part of this deposition.)

Q.323: (By Mr. Lyon): Mr. Doble, in this advertisement it is stated, "In running the scratchers you get a rotating, reversing action." Do you understand what that means? A. Yes, sir.

Q.324: What does the word "reversing" there mean?

A. It means at the reversal of the reciprocation a sliding rotation takes place between the body portion of the scratcher and the well casing so as to bring the ends of the bristles into a new position in the mud cake, so that on its next stroke each of the bristles or wires will traverse a fresh or a new path to remove mud cake from the well wall.

Q.325: Now, Mr. Doble, referring to Petitioner's Exhibit B, and looking at the first line, will you read what that says?

A. "B & W, Incorporated."

Q.326: I mean not the first line of the heading, I mean the first line of the printed [2642-110] matter.

A. "Upward movement of casing exceeding one foot reverses wire guides."

Q.327: What does that teach you as a mechanical engineer?

A. That teaches me an upward movement, in fact, or a downward movement of over one foot, which happens to be the spacing between the beads

(Deposition of William A. Doble.)

less the thickness of the body of the wall guide, will cause movement of the wall cleaning guide either upwardly or downwardly, and that reversal of the wires will take place at each end of the stroke, whether upward or downward.

Q.328: As a mechanical engineer, Mr. Doble, is there any difference in the teaching of the two publications, Exhibits JJJ and Exhibit B, with respect to the portions of the two ads which I have either read to you or had you read?

A. No; I would say they are the same, and as we have demonstrated here, at each reversal point, either the upward limit or the downward limit of reciprocation, each of the scratchers rotates, a small increment of rotation with relation to the casing or simulated casing upon which it was slidably and rotatably mounted.

Q.329: And it is this reversing or reversal, is it not, which causes this rotation? [2642-111]

A. Yes.

Q.330: Will you place before you the advertisement of July 7, 1941, Petitioner's Exhibit Z?

A. I have before me Petitioner's Exhibit Z.

Q.331: Now, Mr. Doble, as shown in this advertisement do you find a well casing disclosed or referred to?

A. Yes. I find a casing referred to in the written specification of the advertisement. It does not appear in the reproduction appearing on the upper right-hand corner of Petitioner's Exhibit Z.

Q.332: Do you find that that advertisement dis-

(Deposition of William A. Doble.)

closes a support which is adapted to be mounted on the exterior of that casing?

A. A "support"?

Q.333: Support or ring.

A. Yes; I find the scratcher, Acme wall cleaning scratcher, which is adapted to be mounted upon the outer circumference of a well casing.

Q.334: In fact, the table under the word "cost" defines the different sizes of the scratchers to be mounted on the different size casing, does it not?

A. It does.

Q.335: That scratcher as shown in that advertisement includes a support or ring, does it not?

A. Yes, we might call it a body [2642-112] portion.

Q.336: Will you mark on Exhibit Z the support or ring?

A. Yes, sir. I will mark that "S," with the letter "S." Why don't I write "Support"?

Q.337: All right.

A. I have written the word "Support" on Petitioner's Exhibit Z, and have extended a lead line to that portion of the scratcher which I have identified as the support.

Q.338: Now, state whether or not there are stiff wire whiskers, each flexibly attached at one end to the support?

A. Yes, there are, and I will draw a line from several of the wires and I will place the word "wires" at the end of the lead line which I have drawn to three of the wires which are flexibly

(Deposition of William A. Doble.)

mounted on the support and extend from the periphery thereof, extend outwardly from the periphery thereof.

Q.339: In what direction do those wires extend on the support with respect to the radius of the supports drawn to the projection point of a particular whisker?

A. They extend in an angular relation.

Q.340: Is that an angular inclination?

A. Yes, it is.

Q.341: State whether or not all of the scratchers [2642-113] extend in substantially the same angular relation?

A. You mean all of the wires?

Q.342: All of the wires.

A. Yes, sir, they all do, substantially so. There may be a slight variance, but it is unimportant.

Q.343: Now, Mr. Doble, I place before you also Petitioner's Exhibit I, that is Figure 26 of the Jones and Berdine report, Exhibit L, and I will ask you if this Exhibit I also shows or includes a support? A. Yes, sir; it does.

Q.344: Is that support shown as rotatably mounted on the exterior of a casing?

A. It is. Shall I make a lead line?

Q.345: Just mark what is the support.

A. I will extend a lead line from the portion which comprises the support, and at the end of the lead line will place the word "support."

Q.346: You are doing this on Exhibit I?

(Deposition of William A. Doble.)

A. Yes, sir.

Q.347: Now, does Exhibit I include stiff wire whiskers? A. Yes, it does.

Q.348: Will you just mark those "stiff wire whiskers"?

A. All right, I have placed the [2642-114] notation, "stiff wire whiskers" on the right-hand side of Petitioner's Exhibit I, and shall extend a lead line to three of the stiff wire whiskers which extend outwardly from the periphery of the support.

Q.349: State whether or not those whiskers, those wire whiskers are flexibly attached at one end to the support? A. Yes, sir, they are.

Q.350: How are they flexibly attached?

A. They are flexibly attached by bending one end of the stiff wire whiskers outwardly and extending that outer end of the whiskers through an opening in the guide bars which extend across the peripheral surface of the support. I can mark on Petitioner's Exhibit I one or two of the ends of the wire as it extends through the guide bar, if you care for me to do so.

Q.351: Well, just mark that "inner wire end."

A. All right, I have placed a notation on the left-hand side of Petitioner's Exhibit I the following words, "inner wire ends," and I have extended lead lines to three of such ends. It will be understood, of course, that there is one such inner wire end for each of the stiff wire whiskers.

Mr. Scofield: Those go to the upturned ends.

(Deposition of William A. Doble.)

The Witness: Yes, Mr. Scofield, that [2642-115] is correct.

Q.352: (By Mr. Lyon): State whether or not the wire whiskers in Exhibit I extend at an angular inclination having sidewise direction with respect to the radius of the support drawn to the projection point of the particular whisker?

A. Yes, sir, they do.

Q.353: And state also whether or not all the whiskers have substantially this same angular inclination? A. Yes, sir, they do.

Q.354: Now, Mr. Doble, you have given that answer with respect to Exhibit I in the respects in which I have asked you concerning Exhibit I. Is the scratcher of Exhibit G, that is, Figure 18 of the Jones report, the same?

A. Yes, it is. The wires are bent slightly different, but they are still comparable to the wires as illustrated in Petitioner's Exhibit I.

Q.355: Do the wires in Exhibit G have an angular inclination having sidewise direction with respect to the radius of the support drawn to said projection point of the particular whisker?

A. Yes, sir; not as completely as in Petitioner's Exhibit I.

Q.356: What do you mean by "not as completely"? You mean not as great an [2642-116] angle?

A. No, not quite as extensive an angle. The displacement from the radial line, radius passing through the center of the cylinder or casing may

(Deposition of William A. Doble.)

correspond with a portion of the outer end or the outer portion of the whisker before the outer loop portion is reached. However, at the inner end of each of the whiskers there is a radius which extends under the guide bar, and eventually contacts the periphery of the cylindrical portion of the scratcher, and in that portion the stiff wire whisker extends angularly with relation to an extended diameter or radius from the center of the structure.

Q.357: You used the word "periphery" here with respect to Exhibit G and the scratcher shown therein. What periphery are you referring to?

A. I am referring to the periphery of the support or collar portion of the scratcher element.

Q.358: That is, the surface which is below the—— A. Guide bars.

Q.359: ——guide bars which are visible in Exhibit G?

A. Yes, that is correct. The guide bars are welded to that outer surface of the periphery of the body portion of the scratcher element.

Q.360: I have placed before you Exhibit F. I will ask you if your answer is the same with regard to [2642-117] Exhibit F as it was to Exhibits G and I, with respect to the inclusion of these elements in the scratcher therein disclosed?

A. Yes. My answer to your question is "Yes."

Q.361: That is, you say all of the elements, which I asked you about with respect to both Exhibits G and Z, are likewise disclosed in Exhibit F?

A. That is correct.

(Deposition of William A. Doble.)

Q.362: In the same relationship?

A. That is correct.

Q.363: Now, considering all of these exhibits you have before you, F, G, I and Z, I will ask you whether in each of these exhibits you find a well casing? A. Yes, sir.

Q.364: Is that well casing of a character to be reciprocable in a well bore? A. It is.

Q.365: Do you find disclosed in each of the exhibits which you have before you a support which is rotatably mounted on the exterior of the well casing? A. I do.

Q.366: Do you find before you in each of these exhibits stiff wire whiskers? A. Yes, sir.

Q.367: Do you find in each of these exhibits that [2642-118] these stiff wire whiskers are flexibly attached at one of their ends to the support?

A. Yes, sir.

Q.368: Do you find in each of these exhibits that these wires or whiskers project from a point on the periphery of the support at an angular inclination having sidewise direction with respect to the radius of the support drawn to said projection point of the particular whisker and all in substantially the same angular relation with the support?

A. Yes, sir, I do.

Q.369: Now, state whether or not in each of these exhibits you find that the free ends of the whiskers are of a length to frictionally contact the well wall and abrade its surface upon reciprocation of the casing? A. Yes, sir; that condition I find.

(Deposition of William A. Doble.)

Q.370: Do you find in each of these exhibits, F, G, I and Z, that the whiskers are of such character that they will be upwardly inclined on the down stroke and downwardly inclined on the up stroke of the casing? A. I do.

Q.371: Do you find in these Exhibits F, G, I and Z disclosed a whisker structure and casing support and mounting such that on direct reversal of the direction of travel of the casing that the wires are adapted to [2642-119] fulcrum at their points of contact with the well wall and substantially at their points of contact with the support whereby vertical movement of the casing on such reversal rotates the support on the casing? A. Yes, sir.

Q.372: State whether or not this reversal relieves the bending stresses imposed on the wires?

A. It does. During that reversal action it does.

Q.373: State also whether or not these scratchers and the shifting of the wire circumferentially would result in the scratcher abrading or contacting a different area of the well bore upon each reciprocation? A. That is correct.

Q.374: Is it equally true with respect to all of these exhibits? A. Yes, it is equally true.

Q.375: Now, Mr. Doble, in each of the exhibits, F, G, I and Z, do you find a well bore scratcher adapted to be rotatably mounted on a well casing?

A. Yes, sir.

Q.376: Do you find that such scratcher comprises an annular support? A. Yes, sir.

Q.377: That is the annular support which you

(Deposition of William A. Doble.)

have [2642-120] marked? A. Yes.

Q.378: Do you find that each one of these scratchers has stiff whiskers? A. Yes, sir.

Q.379: Do you find that these whiskers are each flexibly attached at one end to the support?

A. Yes, sir.

Q.380: Do you find that these whiskers each project from a point on the periphery of the support at an angular inclination having sidewise direction with respect to the radius drawn to said projection point of the particular whisker?

A. Yes.

Q.381: State whether or not you also find that the whiskers all project in substantially the same angular relation from the support?

A. Yes, sir, they do.

Q.382: Is this equally true with respect to all these scratchers? A. Yes.

Q.383: Now, Mr. Doble, I place before you Exhibit 2. Are the same answers that you just gave with respect to Exhibits F, G, I and Z also equally true with respect to Applicant's [2642-121] Exhibit 2?

Mr. Scofield: That is objected to as grossly leading.

The Witness: Yes, sir.

Q.384: (By Mr. Lyon): Now, state whether or not those answers are also equally true with respect to Exhibit M?

A. Yes, they are equally true with respect to Petitioner's Exhibit M.

(Deposition of William A. Doble.)

Q.385: Are they equally true with respect to Petitioner's HHH? A. Yes.

Q.386: Mr. Doble, in the scratchers of Exhibits F, G, I and Z, and also Exhibit 2, are the wires arranged so that the upper ends of the wires may be said to pivot in the well bore by frictional contact therewith, so that upon reciprocation of the casing the abrading wires are caused to walk around the inner surface of the well bore, resulting in rotation of the scratcher sleeve upon the casing?

A. May I have that read?

(Question read by the reporter.)

The Witness: Yes, that is true at the reversal points in the reciprocation.

Q.387: State whether or not this results in each wire removing its abrading action with the well bore at a different location of the well bore?

A. Yes, that is true, and it has been clearly shown [2642-122] in the cylinders which we placed in evidence, such, for example, as Petitioner's Exhibits ZZ, EEE-1 and EEE-2, FFF-1 and FFF-2, BBB-1 and BBB-2, and AAA-1 and AAA-2.

Q.388: State whether or not there is any difference in character whatsoever between the hunting action or walking action of the wire ends in any of the exhibits which you have demonstrated or observed that have been offered in evidence in this matter?

A. No. Basically they all operate just the same. Some will progress or rotate slightly more upon

(Deposition of William A. Doble.)

reversal of the stroke than others, but they all rotate at the reversal of the reciprocation, and the difference is only a matter of degree.

Q.389: Referring to Exhibit Z, will you state whether that exhibit discloses and teaches a wall cleaning scratcher—— A. It does.

Q.390: ——comprising an anchoring sleeve adapted to be rotatably mounted on a casing or drill pipe? A. It does.

Q.391: Does Exhibit 2 also disclose and teach that the sleeve has a plurality of circumferentially located holes? A. Yes, sir.

Q.392: Will you just mark those holes in Exhibit Z [2642-123] with the word “holes”?

A. Referring to Petitioner's Exhibit Z, I have placed the word “holes” both below and above the reproduction which appears in the upper right-hand corner of the exhibit, and from those words I have drawn three lead lines from each of the words “holes” to the holes which extend through the periphery of the sleeve or body portion or support of the scratcher.

Q.393: State whether or not this Exhibit 2 also discloses and teaches wire whiskers fixedly attached at their inner ends inside the sleeve?

A. It does. There is shown in this illustration rivets projecting inwardly to the outer surface, through the inner surface of the support, about which the inner ends of the wires are fastened.

Q.394: You might mark the rivets with the word “rivets.”

(Deposition of William A. Doble.)

A. I have placed the word "rivets" above the illustration in Petitioner's Exhibit Z, and have extended from the word "rivets" three lead lines to the inner ends of the rivets which extend through the support of the body portion of the scratcher.

Q.395: Do the wire whiskers singularly extend through those holes in the sleeve?

A. Yes, sir, they do. [2642-124]

Q.396: Do those wire whiskers have coils formed in the wire whiskers?

A. Yes, and those coils are clearly shown in illustration in Petitioner's Exhibit Z.

Q.397: Will you mark the coils in Exhibit Z?

A. Above the upper right-hand corner of the illustration in Petitioner's Exhibit Z I have placed the words "spring coils" and from the words "spring coils" I have drawn three lead lines to three of the separate coils which we have referred to.

Q.398: Do those coils impart resiliency to the mounting of the wires? A. Yes, they do.

Q.399: State whether or not those coils are interposed in the wires between their fastened ends and their free ends?

A. Yes, they are, as clearly shown in illustration of Petitioner's Exhibit Z.

Q.400: State whether or not those coils are positioned substantially where the wires pass through the holes in the sleeve?

A. Yes, sir, that is correct, as clearly shown in the illustration of Petitioner's Exhibit Z.

Q.401: Now, state whether or not the whisker

(Deposition of William A. Doble.)

or wires of Exhibit Z project to an angle from the sleeve [2642-125] simulating the trajectory of bodies thrown from the sleeve were the sleeve rotated rapidly?

A. Well, they approach that relationship, for the definition which you have read would be that of a true tangent. However, from the photograph it is hard to see or determine whether the wires leaving the sleeve do so at a true tangent, but they are not very far from a tangent relationship to the body or support portion of the scratcher.

Q.402: I believe you have testified you have some scratchers made from the teachings of Exhibit Z?

A. Yes, sir.

Q.403: Will you get those scratchers? You have before you Exhibit BB for identification and Exhibit HH for identification, also you have photographs of those——

Mr. Scofield: Did he identify the scratcher as BB?

The Witness: I am sorry, Mr. Scofield.

Mr. Lyon: The gage ring is BB.

The Witness: That is right. The scratcher itself is AA for identification. That is the 5½-inch scratcher. I believe that is AA.

Q.404: And the scratcher AA as it is located in front of you is in the gage ring BB for identification? A. That is right.

Q.405: And the scratcher Exhibit HH is within its [2642-126] gage ring Exhibit II for identification, as the same are placed before you?

(Deposition of William A. Doble.)

A. That is correct.

Mr. Scofield: Doble, won't you identify the AA as the 5½-inch scratcher?

The Witness: Yes.

Mr. Scofield: And the HH is the 3½?

The Witness: The 3½, that is correct.

Q.406: (By Mr. Lyon): Now, you also have before you photographs, Exhibits FF, GG, CC, and DD of the smaller type scratcher?

A. Of the 3½-inch scratcher, yes, sir.

Q.407: And also of the 5½-inch scratcher you have Exhibits V, W, X and JJ; is that correct?

A. Yes, that is correct.

Q.408: And this last set is of the 5½-inch scratcher? A. That is correct, Mr. Lyon.

Q.409: In each one of these exhibits now placed before you, Exhibit AA, Exhibit II, and the photographic reproductions which I have just identified state whether or not you find the whiskers projecting at an angle from the sleeve simulating the trajectory of bodies thrown from the sleeve were the sleeve rotated rapidly? [2642-127]

A. Yes, sir, that is correct.

Q.410: That is, in each one of these exhibits just identified the relationship of the wires is substantially tangential to at the periphery; is that correct? A. That is correct.

Q.411: In each one of these scratchers, Exhibit AA and HH, and the photographic representation heretofore listed, state whether or not you find that the wire whiskers projected through the holes in the anchor sleeves—— A. Yes.

(Deposition of William A. Doble.)

Q.412: —at angles substantially normal to the axis of the respective coil springs?

A. Yes, sir.

Q.413: Also state whether or not in each of these scratchers of Exhibits AA, HH, and their photographic representations you find radial studs within the sleeves which provide fastening means for the wire whiskers? A. Yes, sir, I do.

Q.414: And those radial studs are what, as you have marked on Exhibit Z? A. Rivets.

Q.415: In these exhibits before you, including Exhibits Z, AA, HH, and Exhibits CC, DD, FF, GG, and [2642-128] V, W, X, and JJ, you find that the rows of studs within the sleeve are positioned intermediate to parallel rows of holes through which the wire whiskers project to provide fastening means for the wire whiskers? A. That is correct.

Q.416: In each one of the exhibits which I enumerated in the last question do you find that each stud provides a fastening means for a pair of wire whiskers? A. Yes, that is correct.

Mr. Scofield: The Patent Office cannot help but notice the leading character of this direct examination.

Q.417: (By Mr. Lyon): Mr. Doble, in the lower of the two tests in Exhibit JJJ, that is, the advertising of September 11, 1941, is the collar or sleeve split axially? A. Yes, it is.

Q.418: Why, do you know?

A. Why, it is split axially so that it can be

(Deposition of William A. Doble.)

mounted upon the well casing directly without the requirement of slipping it from one end of the casing to the point at which it is to be mounted.

Q.419: In Exhibit HHH there are what appear to be hacksaw cuts in the collar. Can you ascribe a reason for those hacksaw cuts? [2642-129]

A. Yes, sir.

Q.420: What is it?

A. Those hacksaw cuts are to reduce the force that would be necessary to open the collar, that is, to open the collar or sleeve portion of the scratcher before it is welded, so that it can be mounted directly around the body portion of the well casing, and also so that it can be closed in about the casing and welded to make it an operative structure.

Q.421: How does Exhibit HHH compare with the lower cut of Exhibit JJJ? Is Exhibit HHH a split collar, axially split collar scratcher?

A. Yes, it is.

Q.422: And thereafter HHH has been welded at two points to close the ring after it——

A. Yes, to make it operative. It is not an operative structure until it has been closed and welded, and the way it now appears in Petitioner's Exhibit HHH is the way it would be normally mounted, and as it would appear after mounting upon a well casing. [2642-130]

* * *

(Deposition of William A. Doble.)

Cross-Examination

By Mr. Scofield:

XQ.1: What practical experience have you had, Mr. Doble, in the conditioning of an oil well or in the cementing of an oil well?

A. I have not taken part in a conditioning or cementing of any oil well.

XQ.2: Were you present on a rig where a well was being conditioned?

A. Yes, I have been on a well rig when the well was being conditioned; that is, you mean by circulating mud, yes, sir.

XQ.3: Were they using scratchers of any sort while his mud was being circulated, do you know?

A. That I do not know.

XQ.4: Have you ever been on a well rig at the time that the well was being cemented?

A. No, sir, I have not.

XQ.5: Who led you to believe that the smooth bore cylinders which you have used in these tests simulate the bore of an oil well?

A. Well, I would answer that question this way: From a discussion of the problem with Mr. Wright and [2642-131] Mr. Barkis, and my experience in handling equipment, the main purpose was to demonstrate how the scratchers, the several different scratchers would operate where you had the condition controllable, in other words, you would have exactly the same condition for each one of the different scratchers, so that the final result of

(Deposition of William A. Doble.)

the operation of the different scratchers would be comparable.

XQ.6: How did you prepare yourself for the technical tests about which you have testified here, that is, did you in any way read up in the literature about oil well conditioning?

A. Yes, sir, I read extensively about the conditioning and cementing of oil wells.

XQ.7: What did you read?

A. I read the literature produced by the B & W Company. I read the Jones report. I have read the applications and file wrappers in issue here that are involved in the total discussion. I have read cementing operations, or a cementing operation appearing in one of the oil trade magazines. I believe it was written either by or for one of the Halls, and numerous other articles that I could find in the oil trade journals.

XQ.8: You did, then, prepare yourself after a fashion, and among the things that you read were the [2642-132] B & W bulletins? A. Yes, sir.

XQ.9: And the Jones report? A. Yes, sir.

XQ.10: Do you recall in that Jones report some cross-sectional views of oil wells? A. Yes, sir.

XQ.11: Do you remember in the B & W bulletins some longitudinal sections——

A. Yes, sir.

XQ.12: ——of oil wells?

A. Yes, sir; that is, you mean line drawings, because you can't take an oil well and make a cross-section of it.

(Deposition of William A. Doble.)

XQ.13: They are longitudinal sections taken through the well?

A. That is, a drawing? [2642-133]

* * *

XQ.24: Now, isn't it a fact that this cylinder you used in these tests is more like a cemented cistern than it would be an oil well?

A. That is probably true. The cylinders we had were—certainly, you wouldn't find any oil well made of steel. The surface of the bore of the oil well as you drilled it in the earth would certainly not be steel such as the cylinders which were used in the tests here, but every well is different and the formation in every well is different, and to get a result which could be comparable for the different scratchers I believe it would be necessary to use a metallic surface such as we did, in order to correctly determine the operation of the various scrapers which would be comparable.

XQ.25: Don't you think that this cylinder you used in these tests would more closely simulate a cement cistern than it would an oil well, or well bore of an oil well?

A. It might or might not, it depends on what they were drilling through. They might drill through sandstone or some other formation which might give you a very smooth surface. [2642-135]

XQ.26: You evidently did not get my question. My question was: Don't you think that a cemented cistern, that is, with a cemented wall, more closely simulates the cylinder that you used here or the

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cylinders you used in your test machine than it would the well bore of an oil well?

A. I don't believe so, for the purpose that we were using it.

XQ.27: You think that the well bore of an oil well would more closely simulate this smooth surfaced cylinder than would a cemented water cistern?

A. Yes, for what purpose we were using it. I believe so.

XQ.28: Do you know whether they ever used a scratcher on the inside of a cemented cistern? To your knowledge did they ever?

A. Not to my knowledge.

XQ.29: Did it ever occur to you that the test cylinder might more closely simulate an oil well if you had a few protuberances or circumferential rings spaced within the cylinder?

A. It might, but it would not give the same characteristic of comparison between the different scratchers which we were trying to determine.

XQ.30: But you think if you had a few protuberances [2642-136] extending out into the bore or a ridge or two around it, it would more closely simulate the conditions that you have in a well bore?

A. I will say this: That a good many well bores do have protuberances or strata running into a well bore slightly, or holes in the side wall of the well bore.

XQ.31: Did you ever see one that didn't?

A. I have never seen—well, no, I haven't, excepting this: I haven't looked down an oil well bore

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and those I have looked into are always filled with mud or some other things, and I could not see down very far unless they had a casing in them, so I cannot really answer that question. [2642-137]

* * *

XQ.35: Did you ever see in B and W advertising a well or a drawing of a well that did not have an uneven well bore?

A. Yes, I believe that this instruction sheet, which is—I will withdraw that. It does not show the well bore. Well, in Petitioner's Exhibit E the well bore seems to be quite smooth throughout its entire length. I don't see any particular protuberances or key-seats or anything else along the extent of the bore.

XQ.36: Now, you take a look at the B & W Bulletin 104, and see what you think of the well bores that are shown there.

A. Yes, those well bores, or at least the pictures in Applicant's Exhibit 8, does not show a well bore, but on the page opposite to it there is an illustration of a well bore which shows protuberances and depressions and differences in diameter of the bore along its length.

XQ.37: Well, would you comment upon the well bore that is shown on page 6 of this Bulletin 104?

Mr. Lyon: In what way? In what [2642-138] way?

XQ.38: (By Mr. Scofield): As to the characteristics of the well bore whether it is smooth or

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showed protuberances, rings, key-seats and other projections into the bore.

A. I do not see any key-seats, referring now to page 6, in the well bore. There is a certain amount of irregularity to the well bore, which is to a certain extent smoothed out with mud. It varies in diameter somewhat.

XQ.39: Does it have the appearance to you of the physical well bore of the test machine?

A. Generally, yes. However, I will add this: If you make the surfaces irregular you would not get the type of test which we were endeavoring to make, which would be a comparative test between the action of certain of the scratcher elements.

XQ.40: Now, look at the well bore that is shown on page 9 of Bulletin 104. Does that appear to you to have a smooth wall, like the wall of the test machine?

A. Well, it is not as smooth in some senses. It may be smoother in others because it is lined with mud. It has a bore which varies in diameter. Those differences in diameter extend over a very much greater length in actual well bores than would appear in the figure on page 9 of the illustration, because you will [2642-139] note that the lower end of the figure, that there is a statement "Horizontal scale 1 inch to the foot, vertical scale 1 inch to 40 feet," so that the irregularities are multiplied forty times.

XQ.41: Does that well bore in that cut appear to you to be or to simulate, be the same as the well bore that you have in your test machine?

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A. Yes, it would be very close to the view present in Sections A-A. It is not a metal surface, but it is a surface which is lined with mud cake.

XQ.42: Now, look at the well bore that is shown on page 12, and see whether that appears to have an irregular, roughened surface, and whether it simulates in that manner or in that characteristic the smooth well bore of your test machine.

A. In the section entitled "Oil Sands" it has a relatively smooth section; when you consider that the scale here, the vertical scale is 1 inch to 8 feet, I would say it is relatively smooth, and, of course, that is coated with a very smooth, probably uniform coating of mud.

XQ.43: And it is your belief, is it, that they select those smooth sections to put the scratchers in?

A. No, that is not my belief at all.

XQ.44: What is your belief about the [2642-140] location of the scratchers?

A. They put the scratchers where they want to scratch the walls of the well, where the oil-producing sands are, and where they want to make a bond between the surface of the well and the casing.

XQ.45: Do you know what the characteristic of the surface will be at that point, or at that location? A. Yes.

XQ.46: They do know?

A. Generally they survey it with a wall caliper, so that they have a pretty good indication of what that surface is like, and they also take wall samples.

(Deposition of William A. Doble.)

XQ.47: So you are familiar with the calipering of an oil well? A. Yes.

XQ.48: Have you seen the records of these calipering operations? A. Yes, sir.

XQ.49: Do they indicate that the oil well has a smooth bore throughout its length?

A. Substantially so. There is one thing you must remember about a calipered bore chart, is that it is greatly foreshortened in length, so that any differences would be highly magnified, so that [2642-141] there would be long sections with very little change in diameter.

XQ.50: Do you think that the calipering of a well gives you a pretty accurate idea of what the characteristics of the well bore is or not?

A. I think it gives a pretty good indication of what it is.

XQ.51: Take a look at the well bore on page 13 of this Bulletin 104, and state whether that simulates the smooth test machine cylinder?

A. Yes, I think it would, especially in the section marked "Oil sand." You must bear in mind that the vertical scale is 1 inch to 15 feet, so any irregularities as shown in this figure are extended over a long area of well hole, and they are not just as indicated in the diagram, because that is made for a particular purpose, and it would be impractical to make the illustration 15 feet long for one inch. [2642-142]

* * *

(Deposition of William A. Doble.)

XQ.78: I was wondering whether or not you discussed this matter of the setting up of this smooth bore with an oil well surface.

A. No, I don't believe I discussed that in any way.

XQ.79: Who, if anybody, assisted you in connection with these tests that you have made, and the photographs that you have produced here of the devices that have been used in your test machine?

A. Mr. Solum, Jim Solum of the B & W Company.

XQ.80: Solomon? A. S-o-l-u-m.

XQ.81: Anybody else? A. No.

XQ.82: Who laid out the procedure [2642-147] that you followed here? A. I did.

XQ.83: You formulated the procedure and the tests as they were made?

A. That is, the tests that I have presented in court, I directed the making of those tests and laid out the procedure for making those tests.

XQ.84: Now, who determined what should be tested, and I mean—do you understand what I mean?

A. No, I am not sure I know just what you do mean.

XQ.85: Who determined what scratchers would be tested?

A. I discussed that with Mr. Lewis Lyon, and I generally determined which should be tested from the reading of the material in the controversy between B & W and Mr. Hall in the various suits,

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and what have you. The thing I was very interested in determining was that we could have an accurate basis for comparison between the several scratchers which we have produced, that is, the Jones type, the Weatherford, the Nu-Coil, and scratchers such as Applicant's Exhibit 2.

XQ.86: And you discussed that with Mr. Solum?

A. Yes, I told him what I wanted, and he obtained the scratchers for me except those that—the [2642-148] Acme, which we had made.

XQ.87: Did Mr. Solum have any part at all in formulating the procedures that you used herein?

A. I don't know what you mean by "procedure."

XQ.88: Well, you have set up a test machine with a cylinder, and then you have put in that test machine the cylindrical sleeve upon which you mounted the scratchers, and you have reciprocated the sleeve with the scratchers mounted on the sleeve within the interior of this cylinder, and you have selected certain types of scratchers and evidently run them in this test machine, and you have obtained tracings of the patterns on the interior of these cylinders. Now, all of that sequence of operations I am going to consider as a procedure, or a formulated procedure which somebody set up, and what I want to know is whether you are responsible for this thing, whether Mr. Solum is responsible, whether you are jointly responsible, or whether Mr. Lewis Lyon set this up, formulated it

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for you, or whether the three of you got together and decided what to do, or whether Mr. Barkis and Wright took part in this whole business. What I want to do is pin this on somebody, if we can. Now, I don't mean by "pinning it" in any criticism as to what you have done, but just so that we will know who is actually responsible for this whole business that we [2642-149] have so many very beautiful photographs of?

A. You can pin it right on me.

XQ.89: That is, you are the boy that is responsible for the procedure that was adopted?

A. Of the tests which we have presented here during this deposition. I did not design the machine, I didn't build it, but I directed Mr. Solum to carry out the tests. I was there all the time, and I directed him step by step just what I wanted done. I was entirely responsible for it.

XQ.90: And you also are the person who is responsible for selecting the different types of scratchers that were run in the machine?

A. Not entirely so. I conferred with Mr. Lewis Lyon.

XQ.91: On that? A. On that point.

XQ.92: And I believe you indicated in your prior testimony on cross-examination that you had read over the Patent Office proceedings and the applications, so that you had a general knowledge of this situation, is that right, what you intended to prove, and you were then given the job of formulating the procedure? A. That is correct.

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XQ.93: And where you had any doubt you went to [2642-150] Mr. Lewis Lyon?

A. That is correct. I conferred with Mr. Lewis Lyon in that case.

XQ.94: So that if there is any error here, in any of this work that you have done on testing that is, we can look to you and to Mr. Lewis Lyon?

A. You had better look to me principally. I am the operator that carried out the job.

* * *

XQ.96: (By Mr. Scofield): When we adjourned this noon I believe you were being examined about responsibility of the tests on the test apparatus, and you indicated, as I recall your testimony, that the procedure that was explained in your direct examination was formulated by yourself, with some help from Mr. Lyon; is that correct?

A. Generally that is correct. I conferred with Mr. Lyon, and he told me generally what he wanted, [2642-151] and then I carried out the program, laid it out and carried it out.

XQ.97: Did you, yourself, establish the procedure—— A. Yes, sir.

XQ.98: ——of these tests, and then conferred with Mr. Lyon, or did Mr. Lyon establish the procedure and then confer with you with regard to it? Which was it?

A. Mr. Lyon told me that he wanted certain of these scratchers tested, and I tested them.

XQ.99: Did you design the test machine which has been marked as physical Exhibit III?

(Deposition of William A. Doble.)

A. No, I did not.

XQ.100: Who designed that?

A. I don't know.

XQ.101: Did Solum design it, do you know?

A. I said I did not know.

XQ.102: You don't know? A. No.

XQ.103: You have also indicated in your direct examination that some of these scratchers that were tested were made by Adams-Campbell, as I recall it?

A. I testified that Adams-Campbell made the two scratchers which corresponded to Petitioner's Exhibit [2642-152] Z, that is, one for 3½-inch and one for 5½-inch.

XQ.104: You have those on the table before you? A. Yes, sir, that is correct.

XQ.105: Would you just identify them for the record?

A. The 3½-inch Acme type of scratcher bears Petitioner's Exhibit HH, and the 5½-inch Acme type scratcher is designated by Petitioner's Exhibit AA.

Mr. Lyon: Both for identification.

XQ.106: (By Mr. Scofield): As I recall your testimony, you said that you had spent some time at the Adams-Campbell shop during the time that these were made? A. That is correct.

XQ.107: Who made those at the Adams-Campbell shop?

A. I don't know the name of the mechanic.

XQ.108: He was one of the employees?

A. That is right.

(Deposition of William A. Doble.)

XQ.109: How did you go about, if you did, instructing him in the manufacture of those two devices which you identified?

A. I went down to the Adams-Campbell Company and conferred with Mr. Kipper, is that his name?

XQ.110: The fellow that was here yesterday?

A. No, his son, I think it is Stewart Kipper; is it not, and I produced copies of Petitioner's Exhibit Z [2642-153] and Z-1, and told him that I wanted two scratchers made as closely to the illustration in the upper right-hand corner of Petitioner's Exhibit Z, of which Petitioner's Exhibit Z-1 is an enlargement.

XQ.111: And that enlargement you have in your hand?

A. That enlargement I have in my hand, and the enlargement was photographed as near as possible to the size of the 5½-inch scratcher, Acme-type scratcher, so that we would have as near as possible a comparable size of illustration to follow. Then I read to Mr. Kipper several portions of the printed matter in Petitioner's Exhibit Z.

XQ.112: Is that Z or Z-1?

A. Z, the enlargement is Z-1. I told him that I wanted the Acme scratcher to consist of a 14-gage steel band 2½ inches wide, the edges of which were to be turned inward; that the bristles were to be spaced as close as he could to ⅜th of an inch apart; that the bristles were to be made of 15-gage spring

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steel wire four inches in length, that is, four inches from the point where they project outwardly from the adjacent end of the spring to which they attached, and I wanted the wires to be—that is, the scratcher wires to be as closely related as could be with relation to the wires as they are shown in the enlargement, Petitioner's [2642-154] Exhibit Z-1 and illustration Petitioner's Exhibit Z; that they had to be crossed in the same manner; that the springs, coil springs, should have the same number of coils, which was rather difficult for us to determine. After considerable working on the two exhibits, Petitioner's Exhibits Z and Z-1 they came to the conclusion that each of the coils would have four complete loops; and that if he had any questions whatsoever during the manufacture or production of the two models he was to call me by telephone.

XQ.113: At this first meeting that you had with Mr. Kipper, Jr., was there anybody there present besides yourself?

A. Yes, Mr. Solum was present.

XQ.114: Mr. Solum? A. Yes, sir.

XQ.115: At the time of that meeting did you have this blown-up view, the Exhibit Z-1?

A. Yes, sir.

XQ. 116: You had that? A. Yes, sir.

XQ.117: You left it with him?

A. I left it with him.

XQ.118: You left him also the Z?

A. Yes. [2642-155]

(Deposition of William A. Doble.)

XQ.119: Did you supply him any drawings besides these?

A. No, I did not feel any were necessary. We did project or, at least I had Mr. Solum project the wires as shown in Petitioner's Exhibit Z-1, in order to determine as close as could be determined the relationship of the end of the wire, of each wire to the upper flange surface at the end of the body portion of the scratcher.

XQ.120: You followed up his work from time to time, I assume?

A. Yes, sir. I called, some days twice, and other days once, depending upon how far they were along, to pick up any questions he might have.

XQ.121: Over what period of time did the manufacture of these two devices cover?

A. As closely as I can remember now, it was about a week, a little bit less than a week, I might say.

XQ.122: During that period on how many occasions did you go down to check on his work?

A. Three or four times, as I remember.

XQ.123: Did Solum go with you?

A. Yes.

XQ.124: On each occasion?

A. Yes, sir. [2642-156]

XQ.125: That is, you were working on this as a team, you and Solum?

A. No, he was assisting me. I had no automobile at that time to get around, and he was conveying me around, and I didn't know where Adams-

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Campbell were located and he took me down there and introduced me to Mr. Kipper, Stewart Kipper. I will say this: that Mr. Solum carried out any directions I gave him very effectively, and was very helpful to me.

XQ.126: After these devices were made then the photographs were taken?

A. Yes, sometime after they were made.

XQ.127: Were the gage rings or sizing rings made at the same time?

A. Yes, they were. They were made at the same time, in order that we could as early as possible obtain the correct outside diameter of the wires, in other words, the rings acting as a gage to gage the wires.

XQ.128: Do you know the standard sizes of scratchers that are used on casing?

Mr. Lyon: That is objected to as assuming that there is such a thing.

The Witness: You mean for each size of casing?

XQ.129: (By Mr. Scofield): Yes. [2642-157]

A. I know that scratchers, say a 3½-inch scratcher, is made with various lengths of wire. In fact, when Petitioner's Exhibit HHH was received the wires were 5 inches long, and in order that we could operate Petitioner's Exhibit HHH in the same cylinder that the other 3½-inch size scratchers had been operated, it was necessary to cut the ends to obtain the proper over-all diameter, which I understand is common practice in the field.

XQ.128: And this 3½-inch scratcher which you

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have testified about would be used on 3½-inch casing; is that correct? A. It is correct.

XQ.129: What size hole would a 3½-inch scratcher normally be used in?

A. Well, I can't answer that, because it might be used in various sizes of holes, and the wire would be cut to the proper length for that particular size of hole.

XQ.130: So, so far as you know, they cut the wires or have the wire lengths according to the size hole? A. That is correct.

XQ.131: What would be the outside diameter of a 3½-inch scratcher if the wires were 3 inches long?

Mr. Lyon: What scratcher? [2642-158]

The Witness: What scratcher?

XQ.132: (By Mr. Scofield): 3½-inch.

Mr. Lyon: That is objected to as being indefinite as to what scratcher you are talking about.

XQ.133: (By Mr. Scofield): Do you understand the question?

Mr. Lyon: There are a whole flock of scratchers on the desk.

Mr. Scofield: I asked him about 3½-inch.

The Witness: I understand your question, but I cannot answer unless you identify a particular scratcher, because in some the wires are more tangent than in others, and that would control, the angle from which the wires leave the body would control, to a certain extent, the size, over-all diameter for a scratcher for a 3-inch length of wire.

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XQ.134: (By Mr. Scofield): What would be the outside diameter? A. Of what?

XQ.135: Of a 3½-inch scratcher with 3-inch wires.

Mr. Lyon: What scratcher, whose scratcher?

A. I don't know what scratcher you are talking about.

XQ.136: (By Mr. Scofield): Take the scratcher you were [2642-159] just testifying about, the Hall scratcher. You had it in your hand, didn't you?

A. Yes, I had the Hall scratcher, Petitioner's Exhibit HHH.

XQ.137: Yes, that is the one. What was the outside diameter of that with a 3-inch wire?

A. It would be slightly larger, I believe. May I have that measure? The length of the wire of Petitioner's Exhibit HHH—

XQ.138: I am not asking you that.

A. Wait a minute, I am answering your question—is 2½ inches long so that if we increased the length of each wire to 3 inches along the outside diameter would be correspondingly larger, just how much I couldn't tell you unless I laid it out and measured it, increase the diameter to the increase in length of the wires.

XQ.139: Would that diameter appear on any of Hall's advertising that is in evidence here?

A. For the type of scratcher as shown in Petitioner's Exhibit HHH?

XQ.140: Yes, the 3½-inch.

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A. I don't remember. I would have to look through to be sure.

XQ.141: Now, answer the same question, that is, [2642-160] the outside diameter of a 3½-inch scratcher with 3-inch wires of a wall cleaning guide.

A. By "a wall cleaning guide" which do you refer to particularly?

XQ.142: Which are the wall cleaning guides?

A. Well, we have Petitioner's Exhibit A, Applicant's Exhibit 2.

XQ.143: You don't think——

A. Aren't they all wall cleaning guides, after all is said and done?

XQ.144: Are they?

A. Yes, I think broadly they are all wall cleaning guides.

XQ.145: I didn't know it, but the only one I know as a wall cleaning guide is Exhibit 2.

A. That is a form that can be referred to as a wall cleaning guide, and referring to Applicant's Exhibit 2, the wires project outwardly from the periphery of the body portion of the scratcher 2½ inches, and if we increased the length of the wire to 3 inches that would increase the diameter of the outside of the scratcher to approximately 11½ inches.

XQ.146: My question was as to a 3½-inch wall cleaning guide with 3-inch wires. What would be the outside diameter? [2642-161]

A. Now, that is indefinite again, because it de

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pend upon the direction from which the wires leave the body portion of the scratcher.

XQ.147: Are you familiar with the advertising of B & W? A. Yes, generally.

XQ.148: Do you know of any advertising whatsoever where the wires extend anything but radially in a wall cleaning guide? A. Yes.

XQ.149: Will you show me the advertising?

A. Oh, advertising? I would have to look through the advertising. I don't remember.

XQ.150: You don't remember that?

A. In detail, no. I didn't memorize the advertising, but I have seen scratchers, very small scratchers, I imagine they were $3\frac{1}{2}$, where the wires projected out about a foot on each side. It looked like a spider.

XQ.151: Do you know of a size scratcher, whether it be B & W or Hall, that is $4\frac{1}{2}$ inches?

A. That is what?

XQ.152: In size a $4\frac{1}{2}$ -inch scratcher?

A. Known as $4\frac{1}{2}$?

XQ.153: Yes, did you ever hear of that size in [2642-162] scratchers?

A. I don't know that I have. It is $4\frac{3}{4}$. I don't know what $4\frac{1}{2}$ would be, a standard size or not. There is $4\frac{3}{4}$.

XQ.154: Did you ever hear of a $4\frac{1}{2}$ -inch casing?

A. Not in connection with oil wells. They may have, that does not mean they don't have it.

XQ.155: You have heard of a $4\frac{3}{4}$ -inch casing?

A. Yes.

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XQ.156: What size scratcher would they use on a $4\frac{3}{4}$ -inch casing?

A. That would depend on the size of the well bore. The wires come in long sizes, and they cut them off, depending upon the diameter of the well bore.

XQ.157: I don't believe you understood my question. I asked you first if you knew of the $4\frac{3}{4}$ -inch casing, and you said you did. A. Yes.

XQ.158: And then I asked you what size scratcher they would use on a $4\frac{3}{4}$ -inch casing.

A. Oh, a $4\frac{3}{4}$ -inch scratcher.

XQ.159: That is right. In what size well hole would they use a $4\frac{3}{4}$ -inch casing? What size do they use in the industry, in other words?

A. Pardon me, may I have that question read? [2642-163]

(Question read by the reporter)

The Witness: Well, it all depends upon the well, some wells are drilled larger and some are smaller, so that it would depend on the size of the well bore, so you could use a $4\frac{3}{4}$ on many different sizes of well bores.

XQ.160: (By Mr. Scofield): From what range?

A. That I am not familiar enough to tell you.

XQ.161: You don't know?

A. No. [2642-164]

* * *

XQ.198: In connection with this educational work that you did, that is, to educate yourself or

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this technique or this practice prior to the time that you made these tests, did anyone advise you of the width of the annular space between the casing and the well bore normally in an oil well when scratchers are run? A. No.

XQ.199: They did not do that? A. No.

XQ.200: Did you ask anybody?

A. No, I don't remember asking anyone.

XQ.201: Do you know whether or not the people responsible for running these scratchers, that is, the men on the rig or the superintendents, take into consideration that annular space when they order the scratchers? [2642-170]

A. I believe that they take that space into consideration in ordering the scratchers, yes.

XQ.202: That is——

A. That is why sometimes they call for wires of longer length than are listed in the standard table of sizes.

XQ.203: Now, why would they want wires of longer length under certain conditions?

A. So that they can cut the wires off, to suit the diameter of the well bore.

XQ.204: Is it your belief that they order wires long, and cut them off?

A. In some instances, yes.

XQ.205: Suppose that the annular space is very narrow, do you know whether they ever order a bigger type of scratcher for a hole of that character?

A. I wouldn't know. I don't know what they do

(Deposition of William A. Doble.)

order. I have never seen any orders from any of the operators in the field.

XQ.206: When you were giving your testimony on direct, did you realize that your testimony was conspicuously lacking with respect to dimensions?

A. In what respect?

XQ.207: Well, dimensions of the cylinder that you were running the tests in, and the size of the scratchers, [2642-171] that is, the outside diameter of the scratchers that were run in these cylinders?

A. I don't believe so. I pointed out upstairs when we were viewing the test machine, that the cylinder located in that machine was $9\frac{7}{8}$ inches in diameter.

XQ.208: Was that the only mention you made in all your testimony of the diameter of one of those cylinders? A. It might have been.

XQ.209: Now, let's find out what all these diameters and size scratchers were, and let us first take the scratcher that you ran, I think it was the $3\frac{1}{2}$ -inch scratcher, that corresponded to Exhibit M.

A. Yes.

XQ.210: Do you have that scratcher?

A. I think we do.

XQ.211: That was not offered, was it?

A. No, I don't remember it being offered.

XQ.212: Do you know why it was not offered?

A. No, I haven't the least idea why.

Mr. Lyon: I can tell you, if you want to know, so that you won't draw any unwarranted inference

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There is no use duplicating the record with the same thing. If you want it, he has it in his hand.

Mr. Scofield: I think it had better go in, and if you want to mark it as one of your exhibits, why, do so, [2642-172] or I will mark it as one of mine.

Mr. Lyon: I will offer in evidence this scratcher as Petitioner's Exhibit KKK, the one that the witness has just produced.

(Scratcher referred to was marked by the Notary Public as Petitioner's Exhibit KKK, and made a part of this deposition.)

The Witness: Is there a question, Mr. Scofield?

Mr. Scofield: I don't know whether there is or not.

Mr. Lyon: Before you make your measurement, can you make an accurate determination, the way you are, within a quarter of an inch?

The Witness: I think I can come closer than a quarter of an inch on it, certainly.

Mr. Lyon: You did not on Exhibit 2.

The Witness: Didn't I? Maybe I had better measure Exhibit 2 again.

XQ.213: (By Mr. Scofield): I suggest you reverse that to have the scratcher up close to your ruler.

A. Remeasuring Applicant's Exhibit 2, I now find, by placing the scratcher on the ruler and lining the wires up, that the over-all diameter of the scratcher is approximately $10\frac{1}{4}$ inches.

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XQ.214: And you want to change your testimony to that effect? [2642-173]

A. Yes, I would like to, please, and in measuring—or did you ask me to measure it?

XQ.215: You can while you are doing that. Yes. I am going to ask you——

A. I will put the ticket on first, referring to KKK. All right. Now, I have in my hand Petitioner's Exhibit KKK.

XQ.216: And you are measuring the outside diameter?

A. And I am measuring the outside diameter over the wires, and I get substantially $7\frac{1}{2}$ inches.

XQ.217. That particular scratcher, Exhibit KKK is shown in one of the exhibits, is it not?

A. You mean those photographs?

XQ.218: Yes. A. Yes, it is.

XQ.219: You might identify that. I believe that is shown in—— A. I think it is NN.

XQ.220: That is the scratcher itself?

A. Oh, I see. You wanted it on the machine?

XQ.221: Yes. I think it is shown on the machine in one of the exhibits, I believe it is OO, is it not?

Mr. Lyon: No.

The Witness: I don't have it noted in my list.

Mr. Lyon: No. [2642-174]

The Witness: It is hard to tell in photographs the diameter of the wires, but it is either Petitioner's

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Exhibit KKK or Petitioner's Exhibit M, I cannot say which.

XQ.222: (By Mr. Scofield): Did you test both of these in the machine? A. Yes.

XQ.223: Did you testify with respect to both of those tests on the light gage wire and the heavy gage wire?

A. I don't believe I did, but I think in my direct testimony I stated that I had run the heavy gage wire, and at that time we were worried whether the light gage wire, the spring wires, would have sufficient strength to scratch the blackened portion of the cylinder,

XQ.224: It was my recollection you testified with regard to running the light gage wire.

A. That is correct.

Mr. Lyon: You testified, didn't you, with respect to the operations in Mr. Wright's back yard with reference to the heavy gage wire, too?

The Witness: That is correct, and I have run the heavy gage wire many times, I won't say "many times," but several times, and as far as I could tell they both worked substantially the same. [2642-175]

XQ.225: (By Mr. Scofield): You did testify that these were run in Mr. Wright's back yard?

A. That is correct.

XQ.226: Was he present during——

A. Yes, sir, he was present.

XQ.227: ——all the runs?

A. Yes, sir, at all the runs.

Mr. Lyon: So that there will be no misunder-

(Deposition of William A. Doble.)

standing, he was present at all the runs run in his back yard?

The Witness: That is correct.

Mr. Lyon: But he was not present when any of these tracing cylinders were made?

The Witness: No, I don't remember seeing Mr. Wright present during the running of any of the scratchers which scratched the black portion of the cylinders, which we have referred to and have the photographs of.

XQ.228: (By Mr. Scofield): Let us get back to the running of this Exhibit KKK in your test apparatus. Is there in evidence here as a physical exhibit the cylinder that you used on the test machine when that scratcher was run?

A. No, I don't have it present.

XQ.229: Do you have that cylinder here in the building? A. Yes, sir. [2642-176]

XQ.230: Did you testify or didn't you what the diameter, inside diameter of that cylinder was?

A. I don't remember if I did, but it is $6\frac{7}{8}$ inches in diameter.

XQ.231: It is $6\frac{7}{8}$ inches in diameter, and what was the outside diameter of this scratcher Exhibit KKK? A. $7\frac{1}{2}$ inches.

XQ.232: Just state for the record what the annular space was——

Mr. Lyon: That is a matter of mathematical determination.

XQ.233: (By Mr. Scofield): ——or if you will,

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just the difference in diameter between the cylinder and the outside diameter of the scratcher?

A. Now, just so we may have that question definite, what part of the body portion of the scratcher do you wish me to measure, the cylindrical portion, or the diameter across the guide bars that hold the wires in place?

XQ.234: I thought that in the phraseology we were using, the outside diameter of the scratcher, that we were always considering that to mean the diameter of the entire scratcher, including the wires.

A. Oh, I have measured that, and that was $7\frac{1}{2}$ inches, I remember. [2642-177]

XQ.235: That was $7\frac{1}{2}$ inches? A. Yes.

XQ.236: And the cylinder, you say, was $6\frac{1}{8}$ inches? A. $6\frac{7}{8}$.

XQ.237: Now, just state for the record what the difference in diameter was between the outside diameter of the scratcher and the inside diameter of the cylinder?

A. Roughly a half inch difference—wait a minute.

Mr. Lyon: Why do you say that?

The Witness: About three-quarters of an inch.

XQ.238: (By Mr. Scofield): Can't you give it to me in 8ths, so that we will be exact?

A. Let's see $7\frac{1}{2}$ and $6\frac{7}{8}$, $\frac{5}{8}$ of an inch.

XQ.239: I believe you also indicated that you ran a 3-inch wall cleaning guide?

A. 3-inch wall cleaning guide?

(Deposition of William A. Doble.)

XQ.240: 3½-inch wall cleaning guide in this same apparatus.

A. Out at Mr. Wright's back yard, as I remember it, we ran one, but I didn't make a cylinder of the one. The cylinder I made was of a 5½-inch wall cleaning guide type of scratcher. [2642-178]

XQ.241: I call your attention to Petitioner's Exhibit XX. Maybe I can give you this, and it will be quicker.

Mr. Lyon: Let me see what is shown to you.

The Witness: Yes, the scratcher mounted on the test stand as shown in Petitioner's Exhibit XX was run in Mr. Wright's back yard on September 27, 1952.

Mr. Lyon: Go ahead, I have it.

XQ.242: (By Mr. Scofield): Was that scratcher that is shown in Petitioner's Exhibit XX produced?

A. No.

XQ.243: Do you have it here?

A. I don't know.

XQ.244: Will you look and see if you have got it?

A. I don't think we have. I don't think we have any scratchers left here. No, we don't have it here.

XQ.245: Can you produce it?

A. I can't say whether I can or not. I do not have it, so I can't produce it.

XQ.246: Do you know where it is?

A. No, I do not.

XQ.247: Do you know the outside diameter of the——

A. No, I do not.

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XQ.248: Is this scratcher still in [2642-179] existence?

A. As far as I know it is. I didn't destroy it.

XQ.249: You can have it tomorrow morning, can't you?

A. I don't know whether I can or not.

XQ.250: Will you ask the gentlemen here if they have it, and it can be produced by tomorrow morning?

A. If I can get hold of it, no reason why it shouldn't be produced, as far as I can see.

Mr. Scofield: I will ask Mr. Lyon: Will you produce that tomorrow morning?

Mr. Lyon: Have I got it? I don't know.

The Witness: I really don't know where it is.

Mr. Lyon: If I can find it, it will be produced.

XQ.251: (By Mr. Scofield): Do you know what the outside diameter of it was?

A. No, I do not.

XQ.252: But it was run, was it not?

A. That is correct.

XQ.253: In this cylinder, which was $6\frac{7}{8}$ -inch inside diameter?

A. I haven't testified that the cylinder——

XQ.254: You have not testified to that?

A. No. Let me finish my answer. May I have the Petitioner's exhibit? I have now before me Petitioner's Exhibit XX, and the cylinder which we have [2642-180] referred to as "24" which is mounted on that stand, and has the sort of indefinite number "2A" down near the bottom of it was an

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aluminum cylinder, and I don't remember the diameter of that. I didn't measure it at the time. I don't know what the diameter of that cylinder was.

XQ.255: Do you recall testifying——

A. This is another one of these cylinders. You remember the cylinder upstairs was marked "4," and the cylinder before us in Petitioner's Exhibit XX was one of the four. I don't remember which number it was, nor do I remember its diameter. I didn't measure it.

XQ.256: Do you remember testifying with reference to any test that was made on this particular scratcher in this cylinder? A. Yes, I do.

XQ.257: In view of that testimony it becomes doubly important that we have that scratcher and the diameter of this cylinder.

A. If we can locate the scratcher. I haven't—I don't know as I have seen it since September, and I will try to locate it, and if I do, I will certainly bring it in, and I will measure the cylinder, but tomorrow morning, I don't think I will have time to measure the cylinder by tomorrow morning. [2642-181]

XQ.258: Well, as soon as you can.

A. All right, I will be glad to.

XQ.259: We are referring you, if you will, to Petitioner's Exhibit YY. A. What is that?

XQ.260: That is the larger type.

A. Mr. Scofield, I now have Petitioner's Exhibit YY.

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XQ.261: Was that scratcher offered here?

A. I don't believe so. I don't remember seeing it here.

XQ.262: What became of that?

A. I don't know. I haven't seen it. I don't believe I have seen it since September 27th.

XQ.263: It is not that one that was in court that I brought? A. That is the one you brought.

XQ.264: That is Exhibit 2?

A. And it is similiar except that it is not the same color. It is similiar to Applicant's Exhibit 2.

XQ.265: That was not produced here?

A. No.

XQ.266: Was that——

A. As far as I know.

XQ.267: Was that cylinder produced [2642-182] here? A. Yes.

XQ.268: Do you know the outside diameter of that scratcher? A. I do not.

XQ.269: Will you produce it so that we can measure it?

A. If I can find it, I will, I will be glad to.

XQ.270: Do you have any recollection as to how much larger the outside diameter of the scratcher was with relation to the inside diameter of the cylinder?

A. I would have—I would have to guess at it.

XQ.271: Do you want to give a guess on that?

A. I would rather not. I would rather produce it and measure it.

XQ.272: Does this photograph give any indica-

(Deposition of William A. Doble.)

tion to you? A. No.

XQ.273: It does not? A. No.

XQ.274: You don't think these photographs are accurate enough for that?

A. Well, it is not a question of being accurate enough. There are many things about photographs that is not well to try to measure it. I will be glad to try and produce it, and also we know the diameter of [2642-183] the cylinder was $9\frac{7}{8}$, and if we know the exact measurements then we won't have to guess about it.

XQ.275: Won't you put a straight edge along this cylinder, the upright outside wall of the cylinder and see how much it misses the ends of the scratcher wires?

A. That is exactly the reason you should not try to measure a photograph, because I know the scratcher fit closely into the cylinder, and I know the outside diameter of the scratcher was larger than the internal bore of the cylinder. How much——

XQ.276: You wouldn't want to say how much larger? A. No use guessing at it.

XQ.277: And you cannot get any idea from laying a straight edge along there?

A. I think it would only be confusing.

XQ.278: But you are going to try to find that, and bring it in so that it can be offered, and you are going to get the smaller one, if it can be found, and bring that in?

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A. We will make every effort to locate it, and if we find it, we will certainly bring it in.

XQ.279: That is all I can ask of you.

A. I may be able to do that by tomorrow morning, but we can certainly——

XQ.280: You can come back on Monday and bring it [2642-184] in?

A. It looks like I am going to have to.

XQ.281: You might have to, who knows? You do know, however, the inside diameter of the cylinder shown in Exhibit YY, don't you?

A. Yes, I gave you that this morning.

XQ.282: What was that size? A. $9\frac{7}{8}$.

XQ.283: That was $9\frac{7}{8}$? A. Yes.

XQ.284: And there was a $5\frac{1}{2}$ -inch scratcher run in that? A. That is correct.

XQ.285: But you don't know the outside diameter, that is, you don't know the diameter of this particular scratcher? A. That is correct.

XQ.286: Was your father an expert patent witness?

A. Yes, that is, part of his life he was. The latter part of his life he was active in quite a number of cases, and he and I were in partnership together for a number of years.

XQ.287: Did he ever caution you at all about testifying?

A. I don't know; in what regard do [2642-185] you mean?

XQ.288: I just wondered if he ever had given

(Deposition of William A. Doble.)

you any precautionary suggestions with reference to your testimony given in these lawsuits or not.

A. Not that I can remember. We used to talk over our various cases quite a good deal together. He would take certain cases and I would take certain other cases, and sometimes we would both be involved in the same case, and naturally we discussed them back and forth extensively.

XQ.289: Did he ever caution you with respect to proofs to establish a desired result and true factual proofs?

Mr. Lyon: I certainly object to the question on the ground that I don't know what it means.

XQ.290: (By Mr. Scofield): Did he ever caution you about that?

A. I am afraid I don't know what you are talking about.

XQ.291: You don't understand it? A. No.

XQ.292: I wonder if you won't make a diagram for me? You have offered, or there has been offered in evidence on behalf of the Petitioner here some photographs showing the top views of the scratchers that were made by Adams-Campbell to simulate the Acme [2642-186] scratcher, and I call your particular attention to Exhibit FF.

Mr. Lyon: I object to the statement as a misquotation of the record. We again caution counsel if at any time he intends to use any of his statements and imply that the witness agreed with them, that it will be necessary for him to get an agreement, a specific agreement of the witness as to his state-

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ment. His ability to misquote and to formulate words to his own liking makes this necessary.

Mr. Scofield: I am sure that the witness will be cared for by his own counsel here.

XQ.293: You have before you Petitioner's Exhibit FF? A. I do.

XQ.294: Let me give you a sheet of paper or a block of paper here. Do you have a compass with you? A. No, sir, I do not. [2642-187]

* * *

XQ.299: I think it will be easier from the point end. That is your own choice, and I don't care whether the diameter is exact, just make it as close as you can. This is going to be just as good a diagram as we can make, and not perhaps as good as some expert draftsman could make it.

Mr. Lyon: Of course, it is either going to be——

XQ.300: (By Mr. Scofield): Make the print over to the right-hand side, so that we can get another circle on there, make two at the same time, side by side, and make them as dark as you can so that they will photostat. A. I have two circles.

XQ.301: Make a collar thickness for that to make it appear it has some thickness of the collar.

A. I think those are dark enough, don't you, Mr. Scofield?

XQ.302: Yes, that is all right. Now, in the left-hand, we will call those collars, in the [2642-188] left-hand collar would you draw a dotted line diametrically through the circles and make a dotted

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line, because it is of little effect—no, make it vertical. A. Through each of them?

XQ.303: Yes, I think you might just as well. Now, through the left-hand collar again indicate a a perforation so as to show where one of those coil springs comes through these, so that the coil spring would pass through the vertical line that you have. It would be the axis for the coil, that is, the vertical line would be the axis for the coil.

A. We have not shown the thickness of the wall.

XQ.304: You might just do that in that location in free-hand, if you care to.

A. It is a little heavier then.

Mr. Lyon: A lot heavier.

The Witness: A lot heavier.

XQ.305: (By Mr. Scofield): Just indicate one of the perforations at the vertical line.

A. I have done so, with the dotted lines as you suggest.

XQ.306: That is all right. You have indicated on your direct examination that there were four whorls or convolutions in each of these coil springs, and that is [2642-189] satisfactory to me, so won't you put in just four of those convolutions in the location where that perforation is through the collar?

A. I may not have those just right, but they are roughly.

XQ.307: That is doing better than I can do.

A. That is a little bit out of proportion. I hope you will appreciate that.

XQ.308: Put before you this photograph FF,

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and as I look down on that collar with one of these coils located in about that position, I find that two scratchers seem to come out of the same coil. What is that optical illusion due to?

A. One is the upper wire and the other is the lower wire. There are two wires vertically spaced.

XQ.309: That was my understanding of it, and I notice that those two wires that are vertically spaced in the manner you have explained come off of the collar at a different angle, do they not?

A. Well, I don't think they come off at a different angle.

XQ.310: They appear to from the photograph.

A. They appear to.

XQ.311: Yes, what is that due to?

A. That is due to the displacement of [2642-190] the lower holes around the periphery of the cylinder with relation to the holes of the upper holes; that is, they are in staggered relation.

XQ.312: I thought you said——

A. I can point out here an upper row of holes that are positioned around the upper edge of the periphery, and the lower row of holes are staggered with relation to the upper row of holes.

XQ.313: Does the angularity of the wires upwardly and downwardly have anything to do with that? A. Have anything to do with what?

XQ.314: To do with this illusion that you have that they are at different angles to the collar?

A. Well——

XQ.315: Do you understand what I mean?

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A. Yes, but I don't agree with you that there is any optical illusion. It appears to me you can see the upper row ones and the lower row ones from a different point on the collar, so that they are all of the same angle with relation to the collar, the upper row and the lower row.

XQ.316: It is a fact, is it not, that there appears to extend from each one of those coils two wires?

A. No, I do not think so.

XQ.317: Don't you get that effect [2642-191] from looking down at or on looking at Exhibit FF?

A. No.

Mr. Lyon: The witness has already answered the question. He said he did not.

The Witness: No, I did not. I can clearly see the upper and the lower wires are below them.

XQ.318: (By Mr. Scofield): Certainly the wires are at a different angle, are they not?

A. No, they are not at a different angle. They are the same angle with relation to their divergence from the periphery of the collar or body portion.

XQ.319: Now, won't you draw right at or through the top of this left-hand collar that you have drawn on the paper you have before you a tangential line which is at right angles to the vertical dotted line so that it intersects the top of the collar—no, a tangential line?

A. I am going to get it, if I can.

Mr. Lyon: I would like to have a definition of the word "tangential" as used by counsel. Until he does give it I am going to have to instruct the

(Deposition of William A. Doble.)

witness not to answer the question, because counsel has argued three different definitions for the word.

XQ.320: (By Mr. Scofield): Do you understand what a tangent to a circle is? [2642-192]

A. I know what a tangent to a circle is, but I don't know what you have defined as a tangent to a circle.

XQ.321: Can you draw a tangential line to the top of that upper circle, the outer circle, which is at right angles to the vertical line you have drawn there? A. Yes.

Mr. Lyon: The witness obviously cannot do any such thing until you define what you mean by "tangent."

XQ.322: (By Mr. Scofield): Oh, yes, the witness can. He said he could.

Mr. Lyon: You have argued three different definitions for the word already. Which one are you adopting in this question?

XQ.323: (By Mr. Scofield): I am not adopting any definition for "tangent" here. I am asking him merely to draw a certain tangent, and he says he can.

Mr. Lyon: He can draw what he understands to be a tangent.

Mr. Scofield: That is all I want him to do.

Mr. Lyon: But that is not what you will argue it is. Which definition are you using?

Mr. Scofield: I am just using the definition as it appears in the dictionary.

Mr. Lyon: That would be satisfactory [2642-193] if that is the definition you are adopting.

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Mr. Scofield: That is the definition.

The Witness: Well, I will draw the definition as applied in geometry to the word "tangent."

XQ.324: (By Mr. Scofield): You mean you will draw the tangent I have defined? A. Yes.

XQ.325: Draw it in a dotted line, please.

A. All right. That is as close as I can get to it, with the tools I have to work with.

XQ.326: I admit you are working under difficulty, but I think you are doing a good job. Now, can you draw in the wire which extends from that coil at the angle which it appears in the photograph?

Mr. Lyon: Photograph or model, Mr. Doble? I think he can get further with that than with this picture.

XQ.327: (By Mr. Scofield): Would a protractor help you at all?

A. I don't know. That is roughly as I view the wire extending from the coil spring which we had previously drawn.

XQ.328: You have drawn in the wire somewhat below the tangential line? A. That is correct.

Mr. Lyon: "Somewhat below" in [2642-194] what relation?

Mr. Scofield: It can only be below in relation to the drawing that he has made.

Mr. Lyon: The drawing has no top or bottom to it at the present time.

Mr. Scofield: I said it was below the tangential line.

XQ.329: The top is, of course, the upper part

(Deposition of William A. Doble.)

of the sheet, is it not? A. Yes.

Mr. Lyon: Just draw on the sheet what you mean, "top."

The Witness: I will put "top" here and "bottom" down here, and I might state the angle which I will mark "A" is less than 90 degrees.

XQ.330: (By Mr. Scofield): And it is your belief from this photograph taken above that the wires which extend from the coils of that collar shown in Exhibit FF extend below a tangential line?

A. That is as I view it.

XQ.331: That is as you view it? A. Yes.

XQ.332: That is shown from the photograph you were looking at, Exhibit GG?

A. For the moment I am looking at Exhibit GG.

XQ.333: Now, is that the same—— [2642-195]

A. It is the same 3½-inch Acme type scratcher, but the view is taken so as to bring the center of the camera as near as possible over one portion of the periphery of the body portion, so that you can get a little more correct viewing of the angle of the wire with relation to the——

XQ.334: How does it appear to you?

A. It appears to have even—an angle even less than the one I have shown; in other words, the angle "A" would be less than the angle "A" which I have shown on my sketch.

XQ.335: Look at the sketch itself, as Mr. Lyon has suggested and see what you think of the wire that you have drawn here, whether it is an accurate reproduction of the actual device.

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Mr. Lyon: The wire is presently the same, Mr. Scofield.

Mr. Scofield: Don't instruct him.

Mr. Lyon: I am not instructing him.

Mr. Scofield: Just let him answer his own question.

Mr. Lyon: I am not instructing the witness in any way.

Mr. Scofield: Don't answer for him.

Mr. Lyon: I am not answering for him.

The Witness: I would say that in most cases the [2642-196] wires on the actual model, that is, on Petitioner's Exhibit HH for identification, has an angle "A" of less than 90 degrees; in fact, it is less than that which I have depicted on the sketch which you have before you.

XQ.336: (By Mr. Scofield): Now, will you——

Mr. Lyon: In making that answer, Mr. Doble, were you judging solely by eye? A. Yes, sir.

XQ.337: (By Mr. Scofield): Will you now designate the double ring as "collar" and the four convolutions as a "coil"?

A. I will put "coil springs."

XQ.338: "Coil springs"? All right, and the wire as a "wire."

A. I have put little cross-section marks on the wire so that it can be better identified, and also labeled the wire with a lead line and an arrowhead on the end of the lead line.

XQ.339: Won't you identify also this particular drawing for the record as "Doble-Acme"?

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A. I had better put "3½-inch Acme," shouldn't I?

XQ.340: All right. Now, will you move over to the right-hand diagram and again designate that as "top" and "bottom," so that we won't have difficulty about that, [2642-197] and won't you put before you, I will get them for you—first, maybe it would be well for us to identify here or list at the side of the "Doble-Acme" drawing the scratchers or the exhibits that correspond to this particular drawing you have made. Maybe I can help you with that.

Mr. Lyon: I would like to know what you mean by "correspond."

XQ.341: (By Mr. Scofield): Well, you made a 3½-inch scratcher of that sort, did you not, Mr. Doble? A. Yes.

XQ.342: And that is shown in Exhibit DD?

A. You are referring to the drawing first?

XQ.343: The photographs.

A. I mean the photographs, yes.

XQ.344: That is Exhibit DD? A. Yes.

XQ.345: And the same thing would be true of Exhibit FF? A. That is true.

XQ.346: And GG? A. That is correct.

XQ.347: The same is true of JJ?

A. I don't think so.

XQ.348: We have that scratcher here, haven't we? [2642-198]

A. Yes, we have it here. It should be CC.

XQ.349: CC, 3½—

(Deposition of William A. Doble.)

A. They are all—these are all $3\frac{1}{2}$ -inch.

XQ.350: What is this one?

A. That is the $5\frac{1}{2}$.

XQ.351: That is made the same as this except it is a larger diameter, is it not? A. Which?

XQ.352: This one here.

A. I didn't put that one down. I put CC down.

XQ.353: You put "CC"? A. I put "CC."

XQ.354: But I say this scratcher shown in Petitioner's JJ is the same design as that, is it not, in so far as the wires are concerned, except it is a larger size? A. Generally that is correct.

XQ.355: Then let us just number that and put the size of it—

A. Suppose I put " $3\frac{1}{2}$ " above this list?

XQ.356: Just draw a line out from the "CC" and put " $3\frac{1}{2}$."

A. Those are all $3\frac{1}{2}$ I have down there so far. Suppose I put " $3\frac{1}{2}$ " in that column, and then we have JJ, which is $5\frac{1}{2}$. I will put that in a [2642-199] different column.

XQ.357: That is all right. That is better than what I suggested. Now, the actual scratcher, the $3\frac{1}{2}$ -inch scratcher is here, is it not? A. Yes.

XQ.358: Just put that exhibit under the $3\frac{1}{2}$ -inch column, and the $5\frac{1}{2}$ -inch scratcher is here?

A. It is.

XQ.359: So let's put that down.

A. And it is AA; all right.

XQ.360: Now, put before you, if you will, the advertising. I think maybe the blown-up exhibit

(Deposition of William A. Doble.)

would probably be more illuminating, be more easily seen.

A. Pardon me just a minute. All right.

XQ.361: You have before you this blown-up advertising sheet which has been offered as Exhibit Z-1, have you not? A. Yes, sir.

XQ.362: The coil springs shown in that particular exhibit, are they arranged in the same fashion as shown in the "Doble-Acme" exhibit?

A. Yes, they are.

XQ.363: Is it your belief that the coil springs in Exhibit Z-1 are radial, the axis of those coil springs extend or coincide with the radius of that collar? [2642-200]

A. No, all of them do not appear to be.

XQ.364: About how much——

A. Some of them look like they might be, but, as I say, it is difficult to tell from a photograph of this nature.

XQ.365: How much do you think they are canted? A. I wouldn't want to hazard a guess.

XQ.366: You put a straight edge on there and do the best you can, because you made these, of course, from this.

A. Partially from that and partially from the description.

XQ.367: Did it say anything in the description about a canting of those coil springs from the radial line? A. No, it did not.

XQ.368: It did not? A. No.

(Deposition of William A. Doble.)

XQ.369: You understand you are now putting yourself in the position when you were instructing this Adams-Campbell man, and I want you to give your best guess as to how much those coil springs are canted from a radial line.

A. I just can't tell you how much they are canted. [2642-201]

XQ.370: We have got to work it out between us.

A. O.K., I don't know that all of them are. For example, the one I am now pointing to, which is down in the lower, I will say right of center, looks like it is directly projecting through the hole.

Mr. Lyon: So that there will be no question about it, just mark that on the Exhibit Z-1.

The Witness: I will mark it——

XQ.371: (By Mr. Scofield): With the letter "X."

A. ——with the letter "X." That will be good.

XQ.372: Look at the one directly above that in the upper row that looks like it is canted at about 90-degree angle.

A. I would say a 90-degree. It is certainly canted, that is, as far as——

XQ.373: Doesn't it look like it is about a 90-degree angle from the line?

A. No, I don't think so.

XQ.374: You don't think it is?

A. No, you can't see enough of the spring really to tell. It didn't all come out in the photograph. I could not tell. That would not be 90 degrees, I know, and you take the springs up in the upper part

(Deposition of William A. Doble.)

of the illustration, and they are certainly not 90 degrees to the axis through the scratcher, scratcher body. [2642-202]

XQ.375: Are they a 30-degree angle?

A. They are—they appear to be all different angles, and some of them appear to be almost straight.

XQ.376: You know they are at an angle, don't you?

A. I would say the majority of them are at an angle.

XQ.377: You did not take that into consideration at all when you made these exhibits, did you?

A. I didn't express it just that way, but you will observe a number of these have a slight cant or angle, or whatever you call it, that is, referring to Petitioner's Exhibit for identification HH.

XQ.378: Won't you just make an opening in the upper part of the second collar and put in a coil spring there at an angle, the best guess that you can make from that description, 30 degrees, 60 degrees, 90 degrees, or whatever you will?

Mr. Lyon: That isn't possible to do, because the witness has pointed out they vary from zero maybe on up.

Mr. Scofield: That is all right. He made these scratchers from that advertising sheet, and I want him now to put in the coil spring as it appears to him from this advertising sheet.

The Witness: Well, I would suggest that we

(Deposition of William A. Doble.)

put in [2642-203] two springs to cover the range, you might say.

XQ.379: (By Mr. Scofield): That is all right. Put in two springs.

A. Suppose I put one spring at the top and another spring at the bottom? Is that all right, Mr. Scofield?

XQ.380: That is all right, do as you see fit.

A. I am not the best when it comes to art work, but I will do the best I can.

XQ.381: Off the record, won't you cant that one above——

Mr. Lyon: We will have the whole statement on the record.

XQ.382: (By Mr. Scofield): Won't you cant the upper one in the other direction, so that the wire will extend in the same direction as the previous drawing on the "Doble-Acme"? A. Yes.

XQ.383: Now, in the lower coil you have not indicated it is canted at all, have you?

A. That is right. It might be a speck, but not very much.

XQ.384: And why didn't you cant that one?

A. Because I believe that some of them down below and up above don't appear to be canted, although [2642-204] they might be.

XQ.385: I would like to have you mark——

A. I have marked the one down below that certainly——

XQ.386: ——that does not look like it is canted?

A. That's right.

(Deposition of William A. Doble.)

XQ.387: I would like to have you draw a lead line to all of those that you don't think are canted, and mark them with the letter "X."

A. That is difficult to do, because you have got a perspective here in going around in a circle, and that is why it is hard to tell the cant and not the cant, because it is like taking this scratcher, and you get a distorted view of it. They look like they are canted, but they really aren't canted very much. Some of them are canted a little bit, so I don't think you can do that. I don't think what you are trying to get at is the true situation here. In other words, looking at Petitioner's Exhibit for identification HH, the coils certainly look like they are canted. They are not canted very much, and those——

XQ.388: I think you are perfectly right, and we will certainly try to get at the true situation.

A. That is true.

XQ.389: Now, you have indicated that the one you [2642-205] have marked "X" does not appear to you to be canted. A. That is correct.

XQ.390: Are there any others that do not appear to be canted in that whole scratcher?

A. Well, I would say that whole row up above do not appear to be canted, just very difficult to tell, on account of the perspective view.

XQ.391: All right. I want you to mark each one with the letter "X."

A. These are the ones that are——

Mr. Lyon: All you are marking "X" are not canted.

(Deposition of William A. Doble.)

The Witness: You can't tell whether they are canted or not.

XQ.392: (By Mr. Scofield): Don't mark them. I only want you to mark those that you think are not canted with the letter "X"

A. I will have to mark all of them.

XQ.393: What I am asking you, contained here in this question, is to mark on this Exhibit Z-1 all of the springs, all of the coil springs that appear to you not to be canted.

A. I started out to do that, and I marked practically all of them.

XQ.394: And then you said you didn't think you could tell. [2642-206]

A. You can't tell exactly.

XQ.395: Don't mark them.

Mr. Lyon: You said the ones that appear to him, and then you tell him not to mark it. Which do you want?

Mr. Scofield: I don't want him to mark any of them unless he thinks they appear not to be canted.

Mr. Lyon: He started to mark them that way, and you told him not to.

Mr. Scofield: All right, I don't want him to mark any that appear to be canted.

The Witness: Well, I am going to mark with "X's" those that appear to be canted.

Mr. Lyon: Not canted.

The Witness: Not canted, excuse me. After viewing the exhibit, Petitioner's Exhibit AA for identification, I would say that——

(Deposition of William A. Doble.)

Mr. Scofield: Now, just a minute. It will be noted that the witness has picked up and has viewed Exhibit AA, which is——

Mr. Lyon: The witness just stated he did.

Mr. Scofield: ——which is a physical exhibit of a scratcher that was made under his direction by Adams-Campbell, and he is now proceeding to mark the Exhibit Z-1——

Mr. Lyon: No, he is not. [2642-207]

Mr. Scofield: ——with the letter “X” where the springs appear to him not to be canted.

Mr. Lyon: No, he is not. He is not doing a single thing at the present time.

The Witness: I don’t know what you want me to do now. What is the situation?

XQ.396: (By Mr. Scofield): What I want you to do is this: I want you to mark the springs in Exhibit Z-1 which do not appear to you to be canted by the letter “X.”

A. I started out to do that.

XQ.397: All right, go ahead and do it.

A. Well, I will say this, that many of them I can’t tell because the photograph is not too clear.

Mr. Scofield: I move that be stricken as a volunteer statement.

XQ.398: All I ask you to do is mark with the letter “X” the——

Mr. Lyon: The witness is entitled to explain.

XQ.399: (By Mr. Scofield): ——the ones that are not canted.

(Deposition of William A. Doble.)

Mr. Lyon: The witness is entitled to explain his answer.

Mr. Scofield: And I am also privileged to move to strike.

The Witness: As I say, that is very difficult to [2642-208] do, Mr. Scofield, because of the character of the photograph. I have probably done the best I can under the circumstances.

XQ.400: (By Mr. Scofield): Now, will you mark those coils in Exhibit Z-1, which appear to you to be canted, with the letter "Y." You have done so?

A. I have done so, to some of them that appear on the front face of the scratcher body, yes.

XQ.401: Will you count the number that you have marked with the letter "X"?

A. Fourteen.

XQ.402: Will you count those that you have marked with the letter "Y"?

A. Well, at the present time I only have five of them, but—I don't know, I could include maybe a couple more. I am a little doubtful about them, but I now have seven.

XQ.403: In these interviews that you had during the making of these scratchers corresponding to Exhibit Z-1, did you mention to Mr. Kipper, Jr.—

A. Stewart Kipper.

XQ.404: —Stewart Kipper, that some of these coil springs did not appear to lie along a radial line?

A. No, I did not. I told him the coil springs were to be placed as closely as he could place [2642-209]

(Deposition of William A. Doble.)

them, as illustrated in the illustration of Petitioner's Exhibit Z-1.

XQ.405: And he did so—— A. He did so.

XQ.406: ——in preparing the——

A. That is correct, he did so in preparing the two exhibits, Petitioner's Exhibit AA and Petitioner's Exhibit HH, both for identification.

XQ.407: Was there ever any discussion during any of these meetings which you had with Stewart Kipper about the location or about the positioning of these coil springs with reference to their axis, and how they are laid with reference to the axis of the collar?

A. I have already answered that question.

XQ.408: And your answer is there was no discussion?

A. I told him to make the scratcher exactly like as shown in Petitioner's Exhibit Z-1.

XQ.409: But that does not quite answer the question. What I want to know is whether there was a discussion about the position of those coil springs?

A. No, I don't believe there was any particular——

XQ.410: You left it to him?

A. I left it to him.

XQ.411: You left it to him? [2642-210]

A. And he had the illustration before him and he made it, and that is the way he made it.

XQ.412: How do the wires extend in Exhibit AA with respect to the axis of those coils?

A. In what way do you mean?

(Deposition of William A. Doble.)

XQ.413: How do they extend with relation to the axis of the coils, how do the wires extend?

A. At an angular relation to the axis of the scratcher body.

XQ.414: No, but I am asking my question as to how those wires extend with respect to the axis of the coil?

A. They extend outwardly from the axis of the coil.

XQ.415: Yes, at about what angle?

A. From what?

XQ.416: From the axis of the coil they extend at a right angle or normal to the axis of the coil, or do they extend at some other angle?

A. Well, they extend fairly close to at right angles to the axis of the coil, the axis of the coil.

XQ.417: Do you want to look at that again?

A. No. The axis of the coil is not determined by each loop, because each loop of the coil is at an angle——

XQ.418: That is right. [2642-211]

A. ——with relation to its axis, and therefore, if you look at the axis, or try to look at the axis independently of the angle of each loop of the coil, I would say that the wires come out substantially at right angles to that axis.

XQ.419: You have not drawn that so in your “Doble-Acme” drawing, have you?

A. Substantially so. It is within a few degrees.

XQ.420: You drew it below, didn’t you?

A. Yes, I drew it below, but possibly I shouldn’t

(Deposition of William A. Doble.)

have drawn the coil on the axis. I drew it that way because you asked me to.

XQ.421: No, I did not ask you to.

A. Yes, you did. That is the way you told me to place the coil, the axis of the coil on the axis of the scratcher.

XQ.422: I told you to do that?

A. Yes, that is not the way all of these are. Some of these are inclined slightly, and in fact, most of them are.

XQ.423: But we are getting away from the question of the axis——

A. I had better correct the drawing a little bit. [2642-212]

XQ.424: I think so. Why don't you just erase it?

Mr. Lyon: No, no.

The Witness: I could draw another one down below.

XQ.425: (By Mr. Scofield): Yes. I want to indicate then that is not how it extends.

Mr. Lyon: Not how what extends?

The Witness: Yes, what extends?

XQ.426: (By Mr. Scofield): How the wire extends from the coil.

A. Yes, sir, it is the way the wire extends from the coil.

XQ.427: I thought in your previous answer you said that the wire appeared to extend at right angles to the axis of the coil. A. Yes.

XQ.428: You have not drawn it so, have you?

A. Not quite.

(Deposition of William A. Doble.)

XQ.429: I want you to draw it that way.

A. That is what I will do here.

XQ.430: Here is an eraser.

A. I am not going to erase, I am drawing it down below, so that we will have both views. Now, I have drawn the coil spring for the wire in the lower half portion of the sketch marked "Doble 3½ Acme," and I have placed the spring coil at a slight inclination [2642-213] from the extended diameter or from the diameter of the scratcher body portion, and have extended the wire from the outer end of that coil.

Mr. Lyon: Will you mark that line you have indicated as the coil axis as "coil axis" on this new sketch?

The Witness: Yes, sir, I have done so.

Mr. Lyon: That is on the sketch that you have been previously drawing?

The Witness: That I have just finished drawing, yes, and I will mark the wire "wire" like I did above.

XQ.431: (By Mr. Scofield): I would like to have you lay the Exhibit AA on the table before you so that it will be in a position similiar to that it was placed when the photograph was taken.

Mr. Lyon: Which photograph?

Mr. Scofield: Exhibit—do you recall the exhibit?

The Witness: No, I don't.

Mr. Lyon: Which photograph are you talking about?

The Witness: You have them there.

(Deposition of William A. Doble.)

XQ.432: (By Mr. Scofield): You want the 51½—

A. You handed me a 51½ scratcher, so that I should have the 51½ picture.

XQ.433: (By Mr. Scofield): Is it in evidence, a photograph of the 51½?

Mr. Lyon: Yes, you had one a minute ago looking [2642-214] from above.

The Witness: We have a number of them looking from above, Mr. Scofield.

XQ.434: (By Mr. Scofield): The 51½?

A. Yes, we have one in the ring, for example.

XQ.435: How about this?

A. That is the 51½ in the ring.

Mr. Lyon: What exhibit is that?

A. It is Exhibit V.

XQ.436: (By Mr. Scofield): Now, have you placed that scratcher—

Mr. Lyon: Better put it in the ring.

XQ.437: (By Mr. Scofield): —Exhibit AA in the position that it is shown in Exhibit V?

A. No, I have not.

XQ.438: Would you do so?

Mr. Lyon: Have you got it the right way, Mr. Doble, or is there any way to tell?

The Witness: No, that is the right way.

XQ.439: (By Mr. Scofield): Well, in order to remove the ring from this, let us put it in the position that it is in Exhibit W.

A. All right. Now, I have Petitioner's Exhibit

(Deposition of William A. Doble.)

AA in the position it appears to be in Petitioner's Exhibit W. [2642-215]

XQ.440: Then I want you to put your eye in the position of the camera lens as shown in Exhibit X.

A. Yes, sir.

XQ.441: Now, are you looking down directly upon the upper or the lower edge of the collar?

A. You are looking down on top of the upper edge of the collar.

XQ.442: The upper? Will you put your finger on the lower edge? A. Oh——

Mr. Lyon: Which do you mean by “upper” and “lower”?

The Witness: I thought you meant the lower ring or upper ring.

XQ.443: (By Mr. Scofield): Rotate this——

Mr. Lyon: You were correct.

XQ.444: (By Mr. Scofield): Rotate the collar so that it will correspond with the drawing Exhibit X you have in your hand.

Mr. Lyon: It is not a drawing.

XQ.445: (By Mr. Scofield): Photograph.

A. How do you want to place it?

XQ.446: Put it in the same position.

A. As far as I am concerned it is in the same position. [2642-216]

XQ.447: It is in the same position?

A. Yes.

XQ.448: And your eye, in order to be in the same position as the lens of the camera, is over the upper or lower edge, as I have pointed them out?

(Deposition of William A. Doble.)

Mr. Lyon: That is not a correct proposition as to upper or lower. The upper ring and upper side of the ring is on top and the bottom side of the ring is down. The other is an angle to which there can be no upper and lower. Let us have the record correct.

XQ.449: (By Mr. Scofield): You indicate, if you will, where your eye is supposed to be with reference to the camera lens.

A. My eye is supposed to be over the scratcher as shown in Petitioner's Exhibit AA for identification, as near as possible over the, directly over the peripheral surface of the body portion of the scraper, to the lower and left, as the photograph is taken in Petitioner's Exhibit X.

XQ.450: Will you just mark on the edge of the collar the point that you have indicated?

Mr. Lyon: What good will that be if the collar is rotated?

XQ.451: (By Mr. Scofield): Just indicate where the lens of the camera and your eye is to correspond with that. [2642-217]

A. As far as this particular question is concerned?

XQ.452: That is right.

A. Because as soon as you rotate or move my eye the place where I marked would just, of course——

XQ.453: That is all right.

A. Let us say right there.

(Deposition of William A. Doble.)

XQ.454: You have marked it directly over one of the coil springs, have you not?

A. Yes, I guess that would be about where it would be. That is where I have marked it, anyway.

XQ.455: Will you indicate with the straight edge that I hand you how the axis of that particular coil spring extends?

A. It seems to extend downwardly and at a slight angle, oh,—

Mr. Lyon: You cannot do it with a straight edge, can you?

The Witness: No. Something about like that, I would say. Now, if that makes any sense in the record, I will be surprised.

XQ.456: (By Mr. Scofield): And you have placed that so that the straight edge extends very nearly to diametrically across the ring, have you not?

A. Well, that depends on what you [2642-218] define as "very closely." It is considerably out from there, as I would see it. In other words, the spring is canted.

XQ.457: In two directions?

A. In two directions, and also the axis of the spring points downwardly toward the table upon which the body portion of the scratcher is mounted.

XQ.458: Now, will you take that straight edge and place it as close a position as you can to a right angle with the axis of that coil? A. Gosh—

XQ.459: Just get it the other way.

A. I will have to get my eyes in the same place.

(Deposition of William A. Doble.)

Mr. Lyon: Isn't that what you just did?

The Witness: No. Let me have the question.

(Question read by the reporter.)

XQ.460: (By Mr. Scofield): Put it on the opposite side, so that you can see the coil.

A. Then I can't gage it very well.

XQ.461: Gage it as best you can.

Mr. Lyon: Can you see the axis of the coil from where you are standing, Mr. Doble?

A. No, it is pretty hard.

XQ.462: (By Mr. Scofield): You can judge it, can't you, Mr. Doble? [2642-219]

A. I would judge this: That the wire sticking out is almost at right angles to that axis, if that is what you want to know, Mr. Scofield.

XQ.463: Yes, that is what I want to do. I wanted you to indicate whether or not that wire was at a right angle to the axis or whether it was at a little greater or less than a right angle to the axis.

A. Well, as best as I can guess it looks like it is just a little bit greater than a right angle, taking in the near side of the wire to the axis of the spring. That would correspond to the same as the angle of—well, no, it wouldn't, either, but it is pretty close to right angles, but not quite, as I would judge it.

XQ.464: Is it proper or accurate to say that these springs in the scratchers that were made by you or were made for you by the Adams-Campbell people, Exhibit AA and Exhibit HH, that the

(Deposition of William A. Doble.)

springs extend substantially at right angles to the axis of the coil?

Mr. Lyon: The springs?

Mr. Scofield: Yes, the wires.

Mr. Lyon: The springs extend substantially at right angles to the coil?

The Witness: I don't know what you mean.

Mr. Scofield: Read the question. Maybe I did misstate it. [2642-220]

(Question read by the reporter.)

XQ.465: (By Mr. Scofield): Do you want me to rephrase it? A. I wish you would.

Mr. Lyon: I would like to point out that the coils are formed of the same wire, so that let us not have any doubt in this matter.

XQ.466: (By Mr. Scofield): We can agree, I guess, that the coils are formed in the wire, can't we?

Mr. Lyon: The coils are formed in the wire, the coils are formed of the wire.

Mr. Scofield: You can agree to that, you will stipulate that?

Mr. Lyon: Yes, but you cannot say that the wires extend from the wire, and that is what you are saying.

XQ.467: (By Mr. Scofield): Now, let me see if I can say it. Is it accurate to say that the wires, the free ends of the wires, extend substantially at right angles to the axis of the coils in these particular scratchers?

(Deposition of William A. Doble.)

Mr. Lyon: Two free ends.

The Witness: I still don't think you have got that right, Mr. Scofield.

XQ.468: (By Mr. Scofield): I will try to rephrase it if you don't get it.

A. I get it, but—— [2642-221]

XQ.469: Is it accurate to say with respect to the scratchers made by Adams-Campbell that the free ends of the wires extend at right angles from the axis of the coils?

Mr. Lyon: Define "free ends of the wires."

The Witness: And you don't define what coils.

XQ.470: (By Mr. Scofield): There is only——

Mr. Lyon: Fifty of them.

XQ.471: (By Mr. Scofield): ——a coil in each wire.

A. Yes, but your question does not include the coil as part of the wire. It could be any coils.

XQ.472: There are no other coils except the coils that are in the wires here, are there?

A. I know, but I would rather have your question definite, so that when I answer we won't be in disagreement on it.

XQ.473: I don't want you to have any doubt on it. Is it accurate to say that the wires extend from the coils which are in each wire at right angles to the axis of the coils?

A. Yes, I think I can agree with that statement, substantially. You put it "substantially."

XQ.474: Yes.

A. They all are not the same, they all vary a

(Deposition of William A. Doble.)

little bit; just generally I would say that were the [2642-222] case.

XQ.475: Now, do you think that that is true with regard to the Exhibit Z-1? A. Yes, I do.

XQ.476: All right. Then let us draw an axis through that upper coil.

A. What do you want me to do?

XQ.477: I want you to draw an axis through that upper coil that you have shown on the right-hand side. A. I have drawn what——

XQ.478: Take the straight edge.

A. No, I can do it free-hand.

XQ.479: You took a straight edge on the other, you had better do it on this. A. O.K.

XQ.480: You have drawn a dotted line in answer to the previons question, which is the axis of the upper coil, have you not? A. I have.

Mr. Lyon: Better mark it.

XQ.481: (By Mr. Scofield): Mark it "axis of coil." Now, over on the other drawing here won't you also mark the vertical line as the "axis of coil"?

A. That was your axis. I don't accept that.

Mr. Scofield: All right. [2642-223]

Mr. Lyon: You don't accept it as the axis of the coil, so why mark it?

The Witness: I will mark it "Scofield axis."

XQ.482: (By Mr. Scofield): You are not going to accept this drawing here as a drawing of the Exhibit AA?

Mr. Lyon: No.

The Witness: That was not what we drew.

(Deposition of William A. Doble.)

XQ.483: (By Mr. Scofield): What?

A. That wasn't what we drew.

XQ.484: Was not what you drew? A. No.

XQ.485: Then I want you to take another sheet of paper and I want you to draw that for me; I thought we had identified these by exhibit numbers here.

Mr. Lyon: This drawing obviously does not correspond to Exhibit AA.

Mr. Scofield: I don't want any instruction.

Mr. Lyon: It is not instruction at all.

Mr. Scofield: I don't want any instruction. I must want him, if that is not what he drew for this particular——

Mr. Lyon: No, he did not.

XQ.486: (By Mr. Scofield): Take another sheet and start over.

A. Gosh, can I have about a five-minute recess? [2642-224]

Mr. Lyon: What you drew, first, Mr. Doble——

Mr. Scofield: Don't tell him what he drew first.

Mr. Lyon: I am asking him a question.

Mr. Scofield: Just ask him what he drew.

Mr. Lyon: What did you draw first, what did you draw in the right-hand side?

The Witness: The 5½ Acme scratcher.

Mr. Lyon: That is right.

Mr. Scofield: That is right.

Mr. Lyon: What he is asking you is: Is that a drawing of the 5½ inch scratcher.

Mr. Scofield: You do this on redirect examina-

(Deposition of William A. Doble.)

tion, anything you want to ask on redirect, and go into it, but don't interrupt, please.

Mr. Lyon: I want to have the record clear, and prevent us from confusing it at any time.

Mr. Scofield: But you do it on redirect examination.

Mr. Lyon: No, I won't. I will do it when I want to.

Mr. Scofield: Don't interrupt.

Mr. Lyon: I certainly will.

Mr. Scofield: Don't interrupt.

Mr. Lyon: I will correct any obvious error at the time.

XQ. 487: (By Mr. Scofield): State, if you will, what [2642-225] the drawing is on the left-hand side of the sheet. A. What the drawing is?

XQ.488: Yes, what is that drawing?

A. Well, it is a couple of circles with a couple of springs and a couple of lines.

XQ.489: You don't want to identify that as being any one of the scratchers or as showing any of the scratcher wires in any of the exhibits that are here on the table?

A. Yes, I have already identified it as in some respects the 3½ inch Acme.

XQ.490: And you have indicated that it is the "Doble-Acme"? A. That is right.

XQ.491: And you have also marked in the upper right-hand corner certain exhibits, have you not?

A. That is correct.

XQ.492: What did you do that for?

(Deposition of William A. Doble.)

A. Because you asked me to.

XQ.493: Is that the only reason?

Mr. Lyon: Yes.

The Witness: Yes, I certainly wouldn't have
have done it if you hadn't asked me to.

Mr. Scofield: We will have to start all over.

The Witness: Can I have a five-minute
recess? [2642-226]

Mr. Scofield: Sure.

(A short recess was taken.)

The Witness: I am not a very good artist or
free-hand draftsman, and I hesitate to make draw-
ings because I realize they are not accurate and they
might give a misconception of what the actual struc-
tures here show.

XQ.494: (By Mr. Scofield): Yes, but of course,
you did not have an accurate drawing to go by to
make these devices, did you?

A. None of the devices would be accurate, I
mean they all vary, every one of them, so that—

XQ.495: But the photograph which you handed
to Stewart Kipper was at best very rough, was
it not?

A. It wasn't too good, no. It was very difficult
to work from, I will agree.

XQ.496: Are the drawings you are making as
good as the photographs or not, or as good as the
photograph— A. No.

XQ.497: —Exhibit Z-1?

A. I wouldn't say they were. I would rather

(Deposition of William A. Doble.)

rely on Exhibit Z-1 and on the structures. We have got the structures here, we have got the photograph, but I don't think my sketch can add anything to it.

XQ.498: We have here the actual device that was produced—— [2642-227]

A. That is correct.

XQ.499: ——and what I want you to do is to make a drawing of this Exhibit AA, or the smaller size probably would be easier to get on the paper, the 3½ inch, which is Exhibit HH, showing the location and positioning of the one scratcher.

A. Well, I can't do that.

XQ.500: One scratcher wire.

A. I can't do that very well, Mr. Scofield, because no two of these coils are exactly alike, if I draw one, and it is different from the others. I hesitate to do that, because I can't see that it can be of any material value to the Patent Office or to you or to anyone else. An accurate sketch that I might make wouldn't be representative of but one, with many around here, thirty-six different points. They are all different. How am I going to make a sketch showing thirty-six different——

XQ.501: Your answer is you don't think you can make one?

A. I don't think I could make one that would do the Patent Office any good. I can draw a line for you, but I don't think they would be worth anything to the Patent Office or to you.

XQ.502: In other words, you don't think you can [2642-228] make one?

(Deposition of William A. Doble.)

A. That is right, as I say, that will not be of any value to anyone.

XQ.503: Let us determine whether it will be of any value.

Mr. Lyon: That is objected to as secondary evidence. The primary evidence is in evidence already, and the production of a sketch that the witness says cannot be accurate is objected to as calling for the production of secondary evidence when the primary evidence is available.

XQ.504: (By Mr. Scofield): I would like to have you put in a scratcher wire which is at right angles to the axis of that upper coil in the right-hand view.

A. Do I have to do that, Mr. Lyon?

Mr. Lyon: What is that, "Put in a scratcher wire"?

XQ.505: (By Mr. Scofield): If you don't, I am going to.

Mr. Lyon: Go ahead and draw.

The Witness: It will be your sketch, not mine.

XQ.506: (By Mr. Scofield): You refuse to do it?

A. I don't refuse to do it.

XQ.507: Well, then do it. Do you want to do it or not? A. I don't want to do it.

Mr. Lyon: What is the purpose? [2642-229]

Mr. Scofield: It does not have to have a purpose to it. I would like to have it on this sketch.

The Witness: I would rather you would make it, because as I say, you have got thirty-six different wires, thirty-six different coils, and those coils

(Deposition of William A. Doble.)

project differently from the different holes. There are different inclinations through the different holes in two directions, and I just don't know how——

XQ.508: (By Mr. Scofield): Of course, that can't be the reason because I am not asking you to do anything. You have done it?

A. Yes, but you are going to relate it to this.

Mr. Scofield: No.

Mr. Lyon: If it has no relation to this one, Mr. Doble, draw it, it being understood that this drawing has no relation to any structure.

XQ.509: (By Mr. Scofield): It does not have any relation to that whatsoever, but you draw this.

Mr. Lyon: It does not have any relation to what?

Mr. Scofield: It does not have anything to do with the Exhibit HH.

Mr. Lyon: Then what is the materiality of it?

Mr. Scofield: The materiality, of course, is obvious. [2642-230]

Mr. Lyon: No, it is not.

Mr. Scofield: You wish it explained?

Mr. Lyon: Yes.

XQ.510: (By Mr. Scofield): You indicated, did you not, in your testimony, that the wires extended at right angles to the axis of the coils in Exhibit HH?

A. Substantially so. They don't all, but they are—— [2642-231]

* * *

XQ.514: You have also indicated that the wires in Exhibit Z-1 extend substantially at right angles to the axis of the coils, have you not?

(Deposition of William A. Doble.)

Mr. Lyon: No. [2642-232]

The Witness: I don't think I so testified.

XQ.515: (By Mr. Scofield): It is in the record; you testified to it.

Mr. Lyon: You are arguing with the witness, or asking him?

Mr. Scofield: I am telling him.

Mr. Lyon: Certainly you are arguing with him.

Mr. Scofield: I am just telling him it is in the record, and we can go back and read it.

Mr. Lyon: Ask him what his testimony is, and don't tell him.

Mr. Scofield: I asked him whether he testified to that.

Mr. Lyon: No, you did not. You tried to tell him.

Mr. Scofield: I asked him that first.

Mr. Lyon: And then you tried to tell him.

Mr. Scofield: He said he did not recall, and then I said he had testified to it, and if he wished corroboration we will go back and read the question.

The Witness: I don't believe I so testified, and I might say that I am not too sure that—well, I will say this: They are not as—they are all so different it is hard to make any—I cannot make an accurate statement in regard to it. The wires and the coils are so indistinctly shown here I wouldn't want to go on [2642-233] record as saying that they are—I will say that they are somewhere near it, but that is about as close as I can get.

XQ.517: (By Mr. Scofield): Then why do you go before this tribunal and state that these exhibits

(Deposition of William A. Doble.)

that you have made are a reproduction of this?

A. They are a reproduction of Petitioner's Exhibit Z-1 with 4-inch wires and not 3-inch wires.

XQ.517: All right.

A. That makes a difference in the angulation of the wires.

XQ.518: All right, but you have said that they are a reproduction, have you not, except——

A. They are.

XQ.519: ——for the length of the wires?

A. They are.

XQ.520: Do you know that those are 3-inch wires in Z-1?

A. As far as we could determine, that is what they appear to be, 3-inch wire.

XQ.521: How did you determine that?

A. Well, that again was very difficult to determine, because a photograph of this type it really should not be scaled to measure it.

XQ.522: You have indicated that you did determine [2642-234] that they were 3-inch wires?

A. No, I didn't. I said that is what we believed they were.

XQ.523: They may be 4-inch?

A. I don't think so, but anyway, we made it 4-inch, and there is the result of what these are. It speaks for itself.

XQ.524: And the attempt that you made is before you as Exhibits AA and HH?

A. Pardon me, I do not care for the inference "attempt." We actually made a reproduction as

Deposition of William A. Doble.)

close as we could to Petitioner's Exhibits Z and Z-1.

XQ.525: That is right.

A. And no "attempt." It was an actual structure made.

XQ.526: If you did that, then you can draw, can you not, how the wire extends in Z-1?

A. No, we didn't make Z-1, and——

XQ.527: I thought you made Z-1?

A. No, we didn't make Z-1. We made a scratcher similar to Z-1, but with 4-inch wires instead of 3-inch wires.

XQ.528: Oh, oh, then you didn't make the scratcher Z-1 at all?

A. Yes, we did. [2642-235]

XQ.529: Then I misunderstood.

A. We made the 4-inch wires instead of the 3-inch wires, Mr. Scofield.

XQ.530: You made the Z-1 scratcher with——

A. 4-inch wires.

XQ.531: ——4-inch wires? A. Yes.

XQ.532: And you did not know whether those were three or 4-inch wires, so you may have made Z-1? A. No, I don't think so.

XQ.533: You don't think so?

A. I think, as close as we could figure, those were 3-inch wires, but I could not say for sure, I mean a photograph like that it is almost impossible to take any dimensions from and have them accurate.

XQ.534: If you thought that the wires in Z-1 were 3-inch, why did you make these 4-inch?

A. Because in Petitioner's Exhibit Z it is stated.

(Deposition of William A. Doble.)

that the bristles are made of 15-gage steel, spring steel, in 3 and 4-inch lengths, so I felt, to make the best demonstration the 4-inch lengths would be better than the 3-inch length.

XQ.535: But you thought, did you not, that the wires shown in Z-1 were 3-inch length?

A. Yes. [2642-236]

XQ.536: And then you chose to make a 4-inch length of wire? A. That is correct.

XQ.537: Now, my question is: Why did you choose the 4-inch instead of the 3?

A. Because I thought it would make a better exhibit.

XQ.538: How did you come to that conclusion?

A. Because the longer the wires, the better you can see what is there, and better gage.

XQ.539: What do you mean by "better gage"?

A. You got a longer wire to gage from.

XQ.540: What do you mean by "gage"?

A. To sight from or see which direction it is going.

XQ.541: Then you are able, by the 4-inch wires, to get a better idea, are you, as to how the wires extend from the coils?

A. I think that is evident.

XQ.542: You have indicated that the wires extend substantially at right angles to the axis of the coils in the two exhibits that were made by Adams-Campbell?

A. Yes, that is correct, substantially so.

XQ.543: And you attempted to make those as

(Deposition of William A. Doble.)

close as you could to the wires that are shown in Exhibit Z-1? [2642-237]

A. Excepting for the length.

XQ.544: Excepting for the length?

A. Yes.

XQ.545: But you did make them extend, that is, you did determine that those extend at right angles to the coils in Z-1 and Z?

A. I believe so. Well, of course, there is another condition we had in making the 3½ inch scratcher, of which Petitioner's Exhibit HH for identification is the embodiment. The outer ends of the wires had to fit within an 8¼ inch diameter, so that governed, to a certain extent, the angulation of the wires, and in the 5½ inch scratcher, Petitioner's Exhibit AA, the outer ends of the wires had to set within a 10¾ inch circle, and of course, that would change the angulation of the wires.

XQ.546: But if——

A. Pardon me, I haven't finished, and changing the angulation of the wires as far as the axis of the coils.

XQ.547: But after looking over these two exhibits Z and Z-1, you came to the conclusion, did you not, that the wires extended at substantially right angles from the axis of these coils?

A. May I have that question, please? [2642-238]

(Question read by the reporter.)

The Witness: Well, as near as we could determine, yes.

(Deposition of William A. Doble.)

XQ.548: (By Mr. Scofield): Did you or didn't you?

A. We did, yes. I said as near as we could determine. Every one is a little bit different, you see, with the——

XQ.549: We are not quibbling about this thing.

A. I know it, but generally——

Mr. Lyon: Apparently you are.

The Witness: As I say, we determined that the axis of the coils were substantially or nearly perpendicular to the wires.

XQ.550: (By Mr. Scofield): I want you to be sure about this, because it is important. After looking at this Z and Z-1—— A. Yes.

XQ.551: ——did you come to the conclusion that these wires extended at substantially right angles from the axis of the coils?

A. Yes. [2642-239]

* * *

Mr. Scofield: I do not want to get my version of this at all. We have got to determine what conclusion you came to as to how these wires extended from the axis of the coils.

The Witness: We didn't have to make a determination [2642-240] along that line.

XQ.553: (By Mr. Scofield): You did not?

A. We made the coils, the wires project nearly perpendicular to the axis of the coils, and the outer free ends of the wires engage the inner periphery

(Deposition of William A. Doble.)

of the gage ring, which is the diameter as specified in the exhibit Petitioner's Exhibit Z.

Mr. Scofield: Now, read his answer.

(Answer read by the reporter.)

XQ.554: (By Mr. Scofield): So you made the wires so that they were perpendicular to the axis of the coils?

A. Reasonably so. There is a variance in all of these. You are trying to get something exact, and there is nothing exact about these.

XQ.555: No, I am not. I am just trying to get your version. I don't care whether it was exact or how it was.

A. I have given you my version of it.

XQ.556: Your version is that what you determined from looking at Z and Z-1 was that these wires extended perpendicularly to the axis of the coils?

A. Within certain limits, yes; that is, that could be a starting point, and then they vary. Each one varies somewhat from the one on either side.

XQ.557: Well, how much? [2642-241]

A. I don't know, I didn't measure them. You can look at it and you can see.

XQ.558: Now, I want you to do that because that was the thing that was given to this manufacturer to make.

A. What was given to the manufacturer to make?

XQ.559: This Exhibit Z and Z-1, as I understood it.

(Deposition of William A. Doble.)

A. That is correct, with the specification that they should be provided with 4-inch wires, and that the outer ends of the wires should be of certain specific diameters. Now, that changes the location and arrangement of the coils, and also changes the angle of the wires with relation to the peripheral surface of the collar of the scratcher body.

XQ.560: So you left it up to him to determine what the angularity was of the wires to the axis of the coil? A. No.

XQ.561: You did not leave it up to him? You did or you did not?

A. I don't remember whether I definitely told him that they should be or shouldn't be.

Mr. Lyon: Should be or shouldn't be what?

The Witness: Perpendicular, the wires perpendicular to the axis of the coils. I was more interested, primarily, really, having the wires the proper length and [2642-242] having the coils mounted, and it would be a matter of geometry as to how some of those relationships would work out with the increased length in the wires. I did not lay it out for him in a drawing and tell him, "you make this."

XQ.562: Then the fact is that you did not give him any instructions as to how the wires should extend from the axis of the coils?

A. I did not say that. I said I didn't remember making any such instructions. You said, "Definitely."

XQ.563: Do you remember?

(Deposition of William A. Doble.)

A. I don't remember giving him any instructions.

XQ.564: You might have given him instructions or you might not?

A. Yes, I will go with that. I might have or I might not, I don't remember.

XQ.565: In any event, he finally showed up with these two exhibits; is that correct?

A. Well, I wouldn't say he showed up with them.

XQ.566: What would you say?

A. I went down, and he had them finished, and I examined them and they appeared to be just what I wanted. [2642-243]

XQ.567: Did you at that time test the angularity of the wires with respect to the axis of the coils?

A. I did not.

XQ.568: You did not?

A. No. I looked the whole thing over, and it looked all right to me, and I accepted it. [2642-244]

* * *

XQ.572: When they finally delivered these two exhibits, AA and HH, you found, did you not, that the wires extended perpendicularly or at right angles to the axis of the coils? [2642-245]

A. I don't know, I didn't measure them.

XQ.573: You did not measure them?

A. No.

XQ.574: Have you measured them since?

A. No, excepting by eye, trying to guess at it.

(Deposition of William A. Doble.)

XQ.575: You did measure them by eye this afternoon, didn't you?

A. Yes, I took a look at it. I don't know how accurate it is, but I looked at it, and it appears to me that they are in some cases perpendicular to the axis and others slightly off one direction, and others slightly off the perpendicular in the other direction.

XQ.576: Did you attempt to draw them this afternoon?

A. You had me drawing something. I am not too sure just what we were drawing.

XQ.577: You don't know now what we were drawing?

A. Yes, we were making some lines which were purported to be "Doble 3½ inch Acme" of which you dictated certain of the lines that I was to draw, so I drew them.

XQ.578: Is it your position now that you do not want to accept the drawing which has been marked "Doble-Acme" as a drawing which was made by you here this afternoon? [2642-246]

A. No, I didn't say that. I don't want to accept your portion of it. I will accept the lower portion of it.

XQ.579: What do you accept the lower portion as?

A. Oh, as representing—it is not accurate, that is the trouble with it, it is not accurate—it is an indication of the relationship between one coil to the wire, and then it is only a guess, of Petitioner's HH for identification.

(Deposition of William A. Doble.)

XQ.580: Is it as accurate as Z or Z-1?

A. Well, Z and Z-1 is a photograph. It is accurate as a photograph, but it is something you cannot measure unless you rotate it in the true plane.

XQ.581: Is Z or Z-1 accurate geometrically?

A. Well, as far as they go, they are, but you have got to put them in the plane where you can measure them. They are perspective, and you cannot measure perspective and get a true reading.

XQ.582: Then you think Z and Z-1 are relatively accurate geometrically?

A. Well, what do you mean by "geometrically"?

XQ.583: I mean, you could determine from the photograph the geometric angularity of the wires or the positioning of the axis of the coils or other geometric determinations from that [2642-247] photograph?

A. You can, and then again you can't, but the enlargement of the cut in Petitioner's Exhibit Z is missing in spots, and it is not too clear, but, of course, it originally was a photograph of one of the Acme wall cleaning scratchers.

XQ.584: Are you ready to admit that it is all we have?

A. That, plus the description in Petitioner's Exhibit Z.

XQ.585: That is right.

A. Well, all I had before me when I instructed the Adams-Campbell Company to make a scratcher like the exhibit, with the exception of the length of the wires.

(Deposition of William A. Doble.)

XQ.586: What did you have before you when you made the drawing on the left-hand side of the sheet that you have before you, do you recall?

A. I don't remember what I had before me now. You were telling me what to do, and I was doing what you were telling me.

XQ.587: Do you recall when you made that drawing that you had any photograph before you?

A. I don't know if I referred to photographs or to the scratcher, Petitioner's Exhibit HH.

XQ.588: You don't recall? [2642-248]

A. I don't recall now which I referred to. It seems to me it was a scratcher I referred to more than the photographs, because the exhibit itself is there, and it is something tangible. The photographs are very deceptive.

XQ.589: It was in the early part of the afternoon. What I am asking you is what you had before you when you made that diagram?

A. I just told you I had before me Petitioner's Exhibit HH for identification.

XQ.590: You think you made that from Petitioner's Exhibit HH?

A. No, I don't remember exactly. You were telling me what to do and I was trying to do it, and I don't remember now.

XQ.591: You don't remember what you did?

A. No.

XQ.592: Now, are you ready to sketch in for me the wire which is perpendicular to the axis in the right-hand view?

Deposition of William A. Doble.)

A. First, I would have to ask what am I supposed to be illustrating, Petitioner's Exhibit HH, Petitioner's Exhibit AA, or Petitioner's Exhibit Z?

XQ.593: Well, I thought we had gone over that, but I will refresh your recollection on it. [2642-249]

Mr. Lyon: Just ask the witness the question.

Don't try to——

XQ.594: (By Mr. Scofield): As I recall, we had Z-1 before you when we made that sketch, did we not?

Mr. Lyon: That the witness has said he does not recollect.

The Witness: There was so much confusion at that time that I really don't recollect, and I wouldn't, I am sure, draw the size of the circle the same as the 3½ Acme for a drawing, and illustration of a 5½ inch Acme.

XQ.595: (By Mr. Scofield): Well, are you getting tired? Do you want to quit now?

A. No, I can go on forever, if you want to.

XQ.596: Oh, sure. It doesn't make any difference. What I want you to do now, then, is make for me a drawing, a diagram of the Z-1 scratcher on a second sheet——

Mr. Lyon: That is objected to as calling for secondary evidence.

XQ.597: (By Mr. Scofield): ——looking down from above.

A. We don't have a photograph looking down from above.

XQ.598: No, but I want you to do as best you can.

(Deposition of William A. Doble.)

A. That is not going to be very good. [2642-250]

XQ.599: We will take a chance on it.

Mr. Lyon: Of what?

XQ.600: (By Mr. Scofield): Of the Z-1.

A. Now, what do you want me to do?

Mr. Lyon. Do you think you can draw a plan view, looking down on Z-1?

XQ.601: (By Mr. Scofield): Showing one wire scratcher as we did on this left-hand view?

A. No, I don't think I could do it.

XQ.602: You don't think you can?

A. I would prefer to have a full view of the scratcher, because in trying to interpolate from a perspective view, it is most difficult, and my drafting isn't too accurate anyway, and I don't think that it would be worth anything.

XQ.603: You don't want to do that?

A. No, I don't want to do that. I don't think it would be helpful to you or the Patent Office.

XQ.604: Don't worry about me.

A. Yes, I do. I would like to help you, if I can.

XQ.605: You just worry about whether it will assist the Patent Office.

A. I am sure it wouldn't assist the Patent Office one darned bit. [2642-251]

XQ.606: In other words, you don't want to do it? A. No, I don't want to do it.

XQ.607: You don't want to do it?

A. I don't want to do it.

XQ.608: Would you put in the wire at a right

(Deposition of William A. Doble.)

angle or perpendicular to the axis of that coil in the right-hand view?

A. If you instruct me to draw two lines, I can draw two lines, but they will be your lines, and nothing I am trying to refer to anything as being——

XQ.609: I would like to have you draw in a wire which is perpendicular to the axis of that upper coil.

A. And this is not related to any of the exhibits here before me?

XQ.610: You are not questioning me. I am just asking you to do that.

A. I have got to know how to do it.

XQ.611: No, all I want you to do is just put the wire in there. You can do it as you see fit, that is up to you.

A. I would rather not do it, because I don't know what I am doing. I don't know what the purpose is.

XQ.612: Yes, you know what you are doing——

A. No, I don't.

XQ.613: ——in putting in a wire [2642-252] which is perpendicular to the axis of that upper coil.

A. Yes, but I don't know what the coil represents. Where is the coil from?

XQ.614: The coil has already been put in there, and let us not go through that again.

A. Let's go through this, that is what I want to know.

XQ.615: Why did you put that coil in?

(Deposition of William A. Doble.)

A. Because you told me to put in a coil.

XQ.616: Was that the reason you put that in?

A. Yes.

XQ.617: And the only reason?

A. And the only reason, that is right.

XQ.618: That is the only reason?

A. I wouldn't make any drawings unless you insist I make them.

XQ.619: When I requested you to make them you mean you did not make it yourself?

A. No, I said I would make it only on your request.

XQ.620: You don't recall why you made this mark on the drawing?

A. No. As I say, there was so much confusion I don't remember why that was and what it related to.

XQ.621: Do you want to put that [2642-253] wire in or not?

A. Well, if you want me to draw a wire in there which does not relate to anything, I am willing to draw two lines which may represent a wire.

XQ.622: I asked you to put a wire in there at right angles to that axis.

A. That is easy, but I want it understood it has no relation to any of the exhibits.

Mr. Scofield: The record will show what it has relation to.

Mr. Lyon: The Witness' testimony is the best evidence of what it has relation to. We don't maintain it has any relation to anything.

(Deposition of William A. Doble.)

The Witness: I mark "Scofield wire" and I put in two lines, and so label it.

XQ.623: (By Mr. Scofield): Will you designate that as the "Hall Acme" for me at the top or bottom, as you see fit?

A. You want me to write that statement?

XQ.624: I told you to write "Hall Acme."

A. It has no connection with any——

XQ.625: All I am doing is directing you to put "Hall Acme" on it.

A. Following your instruction, I will write the words.

Mr. Lyon: Put it in the bottom, the same place as [2642-254] you put it in the other, so that it will correspond to that designation.

The Witness: This is against my will, and it has no relation to any of the exhibits which we have before us. I am merely writing words Mr. Scofield has directed that I write on the piece of paper. I don't agree with it, and if he wants that, it is all right.

Mr. Scofield: I move that the statement be stricken as non-responsive to the question that has been asked.

Mr. Lyon: The witness certainly can explain why he did something that you told him to do.

Mr. Scofield: I would like to have the reporter now mark the diagram or the sketch that has been made by this witness as Applicant's Exhibit 11.

(Deposition of William A. Doble.)

(The sketch referred to was marked by the Notary Public as Applicant's Exhibit 11, and made a part of this deposition.)

Mr. Scofield: I am offering this sketch marked Applicant's Exhibit 11 in evidence.

Mr. Lyon: I will object to it as incompetent, irrelevant, and immaterial, and merely a self-serving statement by Mr. Scofield, and something that the witness has disaffirmed in its entirety.

Mr. Scofield: I think the record will [2642-255] show what the sketch is better than the statement of counsel, so I will leave it to the record [2642-256] to show.

* * *

The Witness: Mr. Scofield, I am able to produce a scratcher which appears to be the same as the scratcher shown in Petitioner's Exhibit YY, that is, as best I can remember. The wires may be of different diameter, but I believe it is the same scratcher as shown in Petitioner's Exhibit YY.

XQ.637: (By Mr. Scofield): What size scratcher is that?

A. The scratcher which I have just——

XQ.638: Produced?

A. ——produced is a 5½ inch scratcher.

XQ.639: What is the length of the wires?

Mr. Lyon: Mr. Doble, I want to ask [2642-262] you one question. This scratcher that you have produced is equipped with No. 16 gage wire, is it not?

(Deposition of William A. Doble.)

The Witness: Well, it appears to be about a 16-gage. It is .064 inches in diameter.

Mr. Lyon: The 15-gage wire is .072, I believe?

The Witness: It is somewhere in that neighborhood, yes.

Mr. Lyon: Do you know whether the one of photograph YY is a 15 or 16-gage wire?

The Witness: I could not tell from the photograph. I do not know.

Mr. Lyon: But you do believe that this scratcher you have in your hand is a duplicate of the one shown in Exhibit YY, with the possible exception of the size of the wires?

Mr. Scofield: I object to statement by counsel.

XQ.640: What I want you to tell me, Mr. Doble, is whether the scratcher you have produced is the scratcher that is shown in Exhibit YY.

A. May I answer Mr. Lyon's question first?

Mr. Lyon: Answer them both.

(Question read as follows: "But you do believe that this scratcher you have in your hand is a duplicate of the one shown in Exhibit YY, with the possible exception of the size of the wires?") [2642-263]

The Witness: That is correct. Mr. Scofield's question?

(Record read as requested.)

Mr. Lyon: Which question do you want him to answer?

(Deposition of William A. Doble.)

XQ.641: (By Mr. Scofield): Answer the last one. You have answered Mr. Lyon's question first.

A. As far as I can tell, it is, but I can't measure the gage of the wire in a photograph.

XQ.642: And you have answered my question as to the size of the scratcher?

A. Yes, $5\frac{1}{2}$ inch.

XQ.643: And I don't believe you have answered my question as to the length of the wires.

A. No, Mr. Lyon; have you that tape?

Mr. Lyon: Mr. Doble, where you were referring to these scratchers as $5\frac{1}{2}$ or $3\frac{1}{2}$, state whether or not you are referring to the casing size, $3\frac{1}{2}$ inch casing and $5\frac{1}{2}$ inch casing.

The Witness: That is correct.

Mr. Lyon: Isn't it marked on the inside?

The Witness: You asked me for the length of the wire?

XQ.644: (By Mr. Scofield): I asked you for the length of the wire.

Mr. Lyon: There is no way, I don't think it is possible for anybody to measure the length of those [2642-264] wires. If you want the total length of the wire——

Mr. Scofield: The Witness has got a rule in his hand and has been measuring them. If counsel will permit him to complete his answer to the question and not attempt to instruct him in the guise of an objection, I would very much appreciate it.

Mr. Lyon: I am not attempting to instruct him,

(Deposition of William A. Doble.)

but it is obvious that the wire has a bend in it and he has not got a bent ruler. You are asking how far they extend out from the collar, or the total length of the wire? Which do you want?

Mr. Scofield: He is going to answer the question.

The Witness: It won't be very accurate. Oh, very, very roughly I would say that the length of each of the wires is substantially 6½ inches.

XQ.645: (By Mr. Scofield): You have attempted, in answering the last question, to measure the length of the wire from the collar, and then you have put the rule on the curve to take the length of the wire, including the straight part and the curved part, have you not?

A. Your question is not clear, Mr. Scofield, because we have two turns in the wire. We have a turn out at one end of the wire there and then we have an arcuate section which follows the periphery of the cylindrical portion of the body of the scratcher. [2642-265]

XQ. 646: Now, will you measure the length of the wire from the collar to the tip end of one of the wires?

Mr. Lyon: Let me have that question.

(Question read by the reporter.)

Mr. Lyon: What part of the collar? I object to the question until it is made definite the inside or outside, or what.

XQ.647: (By Mr. Scofield): The outside surface of the collar.

(Deposition of William A. Doble.)

A. Well, do you mean—I still don't understand it. Do you mean from the point where the wire last touches the peripheral portion of the cylindrical body of the scratcher, or just a radial line directly outwardly from the peripheral portion of the scratcher body?

XQ.648: Do the wires extend out radially?

A. Yes.

XQ.649: What is the result then along the radial line?

A. It will only be an approximation, because I have two corners to go around, and it is very difficult to do with a rigid ruler; about 21½ inches, and that is a very rough measurement.

XQ.650: Is it your belief now that you have measured along the radial line? [2642-266]

A. Part of it is along a radial line.

XQ.651: I didn't ask you that. Have you measured along the radial line?

A. Yes, part of the part there is maybe on the radial line. Most of these are reasonably close to the radial line.

XQ.652: Can you measure the length of that wire from the outside surface of that collar to the tip end of one of the wires along a radial line?

Mr. Lyon: I object to the question as an improper question, very confused. You cannot measure the length of the wire in the direction he is talking about. You can measure the extent of the wire, the distance the wire extends out.

(Deposition of William A. Doble.)

Mr. Scofield: Read him the question.

(Question read by the reporter.)

Mr. Scofield: Let it be indicated on the record that the witness has a ruler in his hand and is studying very intently the scratcher which he has before him.

The Witness: Well, I will have to state that for a portion of the distance from the periphery of the cylindrical portion of the scratcher outwardly to the end of the wire there is a portion of the wire length which does not travel along a radius, a radial line, and therefore, I don't see how I can measure the length of [2642-267] the wire along the radius from the collar, because a part of the wire does not extend on a radial line.

XQ.653: (By Mr. Scofield): Well, now, after that statement can you answer the question?

A. I just answered, I just told you your question is not clear enough for me. I can't.

XQ.654: You can't make that measurement?

A. That is correct, as you have defined the question.

XQ.655: Do you know whether the scratcher you produced is a standard scratcher?

A. No, I do not.

XQ.656: You don't know that?

A. No, I don't.

Mr. Scofield: It is requested that the reporter mark the scratcher which has been produced by the

(Deposition of William A. Doble.)
witness as Applicant's Exhibit 15, and the same is offered in evidence.

(The scratcher referred to was marked by the Notary Public as Applicant's Exhibit 15, and made a part of this deposition.)

XQ.657: (By Mr. Scofield): Applicant's Exhibit 14 was used in the test machine, was it not?

A. Yes, sir.

XQ.658: In what size cylinder was that scratcher [2642-268] used?

A. You mean by "size of cylinder" the internal diameter of the cylinder?

XQ.659: Yes, I think that is the way we designate it, don't we? A. Yes; $6\frac{7}{8}$ inches.

XQ.660: $6\frac{7}{8}$? A. Yes, sir.

XQ.661: Is there in evidence a trace or a pattern made by that scratcher? A. No, sir.

XQ.662: There is not? A. No, sir.

XQ.663: Was Applicant's Exhibit 15 used in the test machine? A. Yes, sir.

XQ.664: Is there a trace in evidence showing the trace pattern made with that scratcher?

A. No, sir.

XQ.665: What is the trace pattern shown on the cylinder which is photographed and offered as Petitioner's Exhibit AAA-1 and AAA-2?

A. The scratcher used in producing these scratch marks on the internal diameter of the half cylinders illustrated in Petitioner's Exhibits [2642-269] AAA-1 and AAA-2 was a standard B & W wall

(Deposition of William A. Doble.)

cleaning guide taken from stock at their place of business in Long Beach. It was similar to Applicant's Exhibit 2 in every respect, as far as I can tell by a comparison of Applicant's Exhibit 2 with my recollection of the scratcher which we used in making the cylinders AAA-1 and AAA-2.

XQ.666: So Applicant's Exhibit 15 was not used in the making of the pattern Exhibit AAA-1 and AAA-2? A. That is correct.

XQ.667: Is there in evidence a pattern or half cylinder showing the pattern made by Applicant's Exhibit 15? A. No, there is not.

XQ.668: What was the diameter of the cylinder that is shown in AAA-1 and AAA-2?

A. As I remember it, it was $9\frac{5}{8}$ inches. I would like to check that by measuring the half cylinder which is here before us. It is $9\frac{7}{8}$ inches in diameter, internal diameter.

XQ.669: $9\frac{7}{8}$? A. Yes, sir. [2642-270]

* * *

XQ.786: You have indicated that you took no part in the selection of the equipment to be tested?

A. That is correct.

Mr. Lyon: You mean by that when it was tested in Wright's back yard?

The Witness: That is correct.

XQ.787: (By Mr. Scofield): Did you specify the length of the operating wires that should be used in these respective tests?

A. Which respective tests?

(Deposition of William A. Doble.)

XQ.788: The tests that were made on the machine here that you have photographs of here in the record.

A. I have two different sets of tests.

XQ.789: Let me first just identify the two different tests. Please identify the two different tests.

A. The tests made in Mr. Wright's back yard I did not have anything to do with the selection of anything, I merely observed operations. [2642-293]

* * *

XQ.799: I put before you Petitioner's Exhibit HHH. A. Yes, sir.

XQ.800: To your knowledge was that scratcher altered in any way other than by welding down the seam where the two parts come together?

A. The ends of the wires, I believe, were 5 inches, and they were cut down to the length they are now in Petitioner's Exhibit HHH. Other than that, there was absolutely nothing done to the scratcher in any way that I know of.

XQ.801: That is, to your knowledge——

A. To my knowledge.

XQ.802: ——there was nothing done to the scratcher? A. That is correct.

XQ.803: Did anyone tell you that the scratcher had been altered in any way?

A. No, sir, they assured me it had not been.

XQ.804: Who assured you?

A. Mr. Solum, who I requested that he purchase a Weatherford scratcher in the open market, a 3½-

(Deposition of William A. Doble.)

inch Weatherford scratcher in the open market, and which he had [2642-296] some little trouble in purchasing, and finally produced the scratcher of Petitioner's Exhibit HHH. He had that scratcher which then was, you might say, a broken ring, he had it welded to place the scratcher in an operative condition. He cut the wires to I believe the same diameter as used in the other 3½ inch scratchers which we tested, and in absolutely no other way, as far as I know, was this exhibit altered, tampered with, changed, bent, or in any way mutilated or forced or bent, or anything else.

* * *

XQ.805: (By Mr. Scofield): Did Mr. Solum do the cutting of the wires? A. Yes, he did.

XQ.806: Did you see him cut them?

A. Yes, sir.

XQ.807: Were these wires in both rows supposed to be the same length?

A. Yes, from the coil, as I remember him cutting them. He put his scale on the center line [2642-297] of the coil outwardly, and then cut each one the same length or tried to cut each one the same length from the center of the coil out to the end of the wire.

XQ.808: I have a tape in my hand and am measuring from the center of the coil to the end of the wires in one row. I will call it the upper row as I hold it in my hand, so that this is the upper row in accordance with the photograph you have taken.

Mr. Lyon: Are you testifying?

(Deposition of William A. Doble.)

The Witness: I can't—

Mr. Scofield: Wait just a minute, I am going to ask you a question.

Mr. Lyon: Are you testifying? The witness has no opportunity to determine whether what you state is true or not.

XQ.809: (By Mr. Scofield): I find that the length of the wire is $2\frac{1}{2}$ inches, and I would like to have you measure the length of that wire, and see if you make it the same length.

A. Is that the wire, Mr. Scofield, this wire

XQ.810: All of them in that row are supposed to be the same, are they not?

A. Yes, they are all supposed to be the same. Yes, I measure that one roughly $2\frac{1}{2}$ inches. Do you want me to measure them all? [2642-298]

XQ.811: I don't care if you do. It does not matter. A. That, too—

XQ.812: I will take your word for it.

A. That one appears to be $2\frac{1}{2}$, yes, approximately that. Do you want me to measure the lower row?

XQ.813: I will turn the scratcher upside down so that the upper row—

A. I will turn it back again, and the lower row appears to be about $2\frac{1}{4}$ inches, that is, the wire extending from—and here it is $2\frac{3}{8}$; some are $2\frac{1}{2}$ and some are $2\frac{3}{8}$; $2\frac{1}{4}$ and $2\frac{3}{8}$; $2\frac{1}{4}$ and [2642-299] $2\frac{3}{8}$.

* * *

XQ.1037: No, that is not my question. My ques

(Deposition of William A. Doble.)

tion is: Did anyone tell you, that is, had anyone ever advised you what size hole, or the minimum size of hole that one of these scratchers must be capable of reversing in? A. No, sir.

XQ.1038: They never have told you that?

A. No, sir.

XQ.1039: Did you ever discuss it with Solum?

A. No, no.

XQ.1040: Did you ever discuss it with Mr. Wright? A. No.

XQ.1041: Do you know what the casing collar is on a pipe string, or do you know what the casing collars are on a pipe string?

A. As I understand it, that is where two joints of casing are connected together.

XQ.1042: Do you know whether these casing collars are of less diameter or of greater diameter than the casing itself?

A. As I recollect, they are usually of a larger diameter. [2642-344]

XQ.1043: Does that refresh your recollection as to any conversation you have ever had with anyone with respect to the reversibility of one of these collars? A. No, sir, it does not.

XQ.1044: Did you ever attempt to reverse a scratcher of the type of Exhibit M within a hole that was substantially the size of the casing collar upon which that particular scratcher would be mounted? A. No, sir.

XQ.1045: Did you ever attempt to reverse a wall cleaning guide within a hole of the size of a

(Deposition of William A. Doble.)

casing collar—— A. No, sir.

XQ.1046: ——upon which it is mounted?

A. No, sir.

XQ.1047: Did you ever attempt to reverse Nu-Coil within a hole of the size of the casing collar—— A. No, sir.

XQ.1048: ——upon which it is mounted?

A. Well, you mean that the scratchers are mounted on the casing, not on the collar?

XQ.1049: Yes, but the hole is substantially the size of the casing collar?

A. No, I have not made such a test. [2642-345]

* * *

Redirect Examination

By Mr. Lyon:

RDQ.1: Now, Mr. Doble, you have brought, subject to what you thought was a request, into the room a small sized aluminum cylinder, like the cylinder “24” of the exhibits that you have referred to, and the same is here at the present time, is it? A. Yes, it is.

RDQ.2: Will you produce it?

A. It is produced.

RDQ.3: I would like to have you look at the inside bore of that cylinder, that steel cadmium plate cylinder, and advise what you see on the inside of it?

Mr. Scofield: Was this produced at my request?

Mr. Lyon: That is what we understood.

Mr. Scofield: Would you identify what this is

(Deposition of William A. Doble.)

The Witness: Yes, I will be glad to, Mr. Scofield. This is the second cylinder we spoke about, the $6\frac{7}{8}$ [2642-353] inches in diameter that was used in the test out at Mr. Wright's home in Los Angeles. I made a mistake in the record. I did refer to it as aluminum, but it is not aluminum, I found out when I carried it down here. I thought it was aluminum due to the coloring, but when I carried it down I determined it must be steel and not aluminum.

* * *

RDQ.4: (By Mr. Lyon): I asked you to identify this cylinder.

A. This cylinder which I have before me bears a label [2642-354] entitled "Cylinder No. 2, $6\frac{7}{8}$ internal diameter straight cylinder," and is illustrated in Petitioner's Exhibits KK, OO, XX, and is the cylinder which was used during the demonstration at Mr. Wright's home, and into and through the major length of which Petitioner's Exhibit KKK, Petitioner's Exhibit M, and Petitioner's Exhibit UU, and either Applicant's Exhibit 14 or one substantially identical, were reciprocated down and up and out of the cylinder.

RDQ.5: Will you look at the inside of that cylinder, and see what you find?

A. Do you want to identify it first?

Mr. Lyon: I will ask that this cylinder be marked as the Petitioner's exhibit next in order for identification.

(Deposition of William A. Doble.)

(The cylinder referred to was marked by the Notary Public as Petitioner's Exhibit LLL for identification, and made a part of this deposition.)

RDQ.6: (By Mr. Lyon): On the outside of that cylinder, Mr. Doble, there is a yellow or almost yellow crayon mark. What is that?

A. The yellow crayon mark forms No. 2, with the capital letter "B" slightly above and to the right of the figure "2." [2642-355]

RDQ.7: Do you know who put that mark on there? A. Yes, sir.

RDQ.8: Who? A. You did.

RDQ.9: When?

A. On September 27th, out at Mr. Wright's home, before the photographs were taken, in order that this particular cylinder might be identified in the photographs.

RDQ.10: Will you look at the inside of that cylinder and tell me what you see?

A. I am now looking into the bore of the cylinder Petitioner's Exhibit LLL, and I note a great many vertical lines scribed in the bore, and those lines are substantially parallel to the cylindrical axis of the bore, and up at the upper end of the bore and adjacent the end of the scratch marks there is clear evidence of sidewise movement of the wires of the scratchers which were reciprocated into and out of the bore of Petitioner's Exhibit LLL.

RDQ.11: How do the scratch marks in the in-

(Deposition of William A. Doble.)

terior of the bore compare with those placed on the interior of the bore during the testing at Mr. Wright's back yard September 27, 1952? [2642-356]

* * *

The Witness: The lines which you have pointed out are those lines which were scribed by the scratchers which were operated in the bore during the tests in Mr. Wright's back yard.

RDQ.12: You have already testified as to what those tests were, haven't you? A. I have.

RDQ.13: Now, Mr. Doble, you were also asked to produce a scratcher that was used in the test shown in photographs, Exhibits AAA-1 and AAA-2 and BBB-1 and BBB-2.

A. The B's are the cylinders themselves.

RDQ.14: The B's are the cylinders themselves? That is what I thought. Have you that scratcher?

A. Yes, sir, I have that scratcher before me, and in order that it may be identified, at the time of the test I had the letter or the number "2" painted on [2642-357] the inside surface of the body portion of the scratcher with black ink—black paint, the same as used on the face of the half cylinders to record the scratch lines made by the wires of that particular scratcher.

RDQ.15: Was this particular scratcher, the one that you have identified there with the "2" inside of it, taken from the stock of B & W?

A. Yes, sir.

RDQ.16: Without alteration?

(Deposition of William A. Doble.)

A. Without alteration.

Mr. Scofield: Let me see it, please.

Mr. Lyon: I will offer the scratcher in evidence as Petitioner's Exhibit MMM.

(The scratcher referred to was marked by the Notary Public as Petitioner's Exhibit MMM, and made a part of this deposition.)

RDQ.17: (By Mr. Lyon): Mr. Doble, in Exhibit MMM I notice that there is no uniformity at which the wires extend outwardly from the body. Was that the condition of the scratcher when it was withdrawn from stock?

A. Yes, as far as I can tell now, that is the way it came from stock. I notice a few of the wires are slightly bent from the manner in which they are normally extended from the cylindrical surface of the scratcher. [2642-358]

RDQ.18: Now, Mr. Doble, you spoke on cross-examination of increment of rotation, and in any of the scratchers that you have tested or seen tested, is there any difference in principle of operation, or was the operation differing only in degree?

A. That is it.

Mr. Scofield: That is objected to——

The Witness: Correct, Mr. Lyon.

Mr. Scofield: ——as calling for a conclusion. Of course, the counsel is testifying.

Mr. Lyon: Which is correct, Mr. Doble? I asked you if it was this or that.

Mr. Scofield: And calling for a yes or no answer.

(Deposition of William A. Doble.)

The Witness: I will state this: That as far as I could determine, all of the scratchers which I have tested rotated in increments, and it was merely a matter of degree as to whether the increment would be larger or smaller. They all trace substantially the same paths through the cylinder. They all rotated, the increment we have referred to, at the reversal of the stroke. Certain of the scratchers rotated by a little larger increment than the others, otherwise they are the same.

RDQ.19: (By Mr. Lyon): Now, Mr. Doble, you were asked several times on cross-examination as to whether you [2642-359] had seen any of these scratchers operated in a regular hole; that is correct, is it not? A. Yes, sir.

RDQ.20: I hand you a photograph, and ask you if you can identify this? A. I can.

RDQ.21: What is this photograph?

A. The photograph which you have handed me is a photograph of a cylinder in which there was cast a cement-like surface, and the photograph bears the label "Cylinder No. 1, 9 $\frac{7}{8}$ i.d., with cement walls and irregular cavities in the side walls."

RDQ.22: Where did you see the cylinder?

A. I saw this cylinder on September 27th in the back yard of Mr. Wright's home in Los Angeles.

RDQ.23: Was it used for any purpose?

A. Yes, sir.

RDQ.24: What purpose?

A. We used it to test out the scratchers on, in a cylinder having a cement wall.

(Deposition of William A. Doble.)

Mr. Lyon: I will ask that the photograph be received in evidence as Petitioner's exhibit next in order, which is NNN.

(The photograph referred to was marked by the Notary Public as Petitioner's Exhibit NNN, [2642-360] and made a part of this deposition.)

RDQ.25: (By Mr. Lyon): You say that you observed the scratchers operated in the test machine in this cylinder of Exhibit NNN on September 27, 1952, Mr. Doble? A. Yes, sir.

RDQ.26: What scratchers?

A. Scratchers—in fact, I think this scratcher is one that we operated in the cement cylinder, and this scratcher is identified by Applicant's Exhibit 15, and the cement cylinder is identified as Petitioner's Exhibit NN. I think you can still observe on the ends of the scratcher wires the cement dust which was deposited on those fingers during the test.

RDQ.27: Any one of these scratchers?

A. Let's see, I think there is a 5½-inch Nu-Coil type scratcher that was run, a 5½-inch scratcher of the Jones type was run, and a 5½-inch scratcher similar to Petitioner's Exhibit MMM were run through the cement cylinder of Petitioner's Exhibit NNN. [2642-361]

* * *

The Witness: It was substantially the same. It was a little harder to determine some of the factors of rotation, but as far as I could see the tests run

(Deposition of William A. Doble.)

in the cement cylinder were comparable to the tests run in the steel cylinder.

RDQ.29: (By Mr. Lyon): I note on the inside of the cylinder of Exhibit NNN that the cylinder wall is not uniform, there is a large cavity shown. Did that affect the operation?

A. It did not appear to affect the tendency of the scratchers to rotate.

RDQ.30. Did the scratchers rotate in this cylinder?

A. Yes, they did, both at the upper and lower ends of the stroke.

RDQ.31: In these tests that were conducted in Mr. Wright's back yard, state whether or not it is a fact that I directed all operations, all sizes of scratchers, all sizes of cylinders, and all cylinders that were used? A. That is correct.

RDQ.32: You have tested, Mr. Doble, scratchers of the same construction, as brought out on cross-examination, the wires of which were of smaller gage and larger gage and otherwise precisely the same structures. What effect did the change of gage have in these tests? [2642-362]

* * *

A. I have run Petitioner's Exhibits KKK and M in the same cylinder. The difference between the two exhibits resides, as far as I can tell, only in the gage of the wire used in these two exhibits. For example, Petitioner's Exhibit KKK has wires of .064 diameter and Exhibit M has wires of a larger diameter, which I believe is .072. Both of the

(Deposition of William A. Doble.)

scratchers were run in exactly the same manner, and the only difference that I could detect in the operation was that it took more force to operate the scratcher having the heavier wires than it did the scratcher with the lighter wires. Other than that, as far as I could see, the increment of rotation was the same, the character of the lines were the same, with the exception that the heavier wires scribed a heavier line on the inner surface of the cylinder.

RDQ.34: Mr. Doble, on cross-examination you were asked if you had seen a specification of scratcher sizes in a publication of B & W similar to those which [2642-363] you have referred to in Petitioner's Exhibit Z. I place before you Petitioner's Exhibit E, and I ask you if you have seen this B & W bulletin? A. Yes.

RDQ.35: Is that the bulletin that you refer to when you said "Yes" to the question which I above referred to? A. Yes, sir.

RDQ.36: I will ask you to compare the two tables of Exhibits Z and E.

A. I have made an examination of the tables appearing in Petitioner's Exhibits Z and E, and I find that the column entitled "API Csg. o. d.," the column of figures there, which represents the sizes of the scratchers, is exactly the same, is identical, in fact, in both of the exhibits. I also find that under the heading in the same table "Standard Outside Diameter," I find the same heading in each of these tables, and I find exact identity between the standard sizes as set forth in these two exhibits.

(Deposition of William A. Doble.)

I have checked the price list of the two exhibits and find the prices are identical, that is, the prices in each of these tables under the "List Price," is identical one with the other. I find in the Petitioner's Exhibit E several columns which are not included in Petitioner's Exhibit Z, [2642-364] those being "O. D. Coupling, W. C. Guide, Width, Number of Wires, Wire Gauge." Those headings were left out of the table listed in Petitioner's Exhibit Z. I also note under the table the following notation in each of these portions of the respective exhibits, namely: "Larger sizes on application. Wire length varied at no additional cost for any size casing or hole condition." I find that identical wording on both of the exhibits.

RDQ.37: What is the 5½-inch casing size scratcher outside diameter indicated in both Exhibits E and Z? A. 10¼ inches.

RDQ.38: And how does that compare with Exhibits A, 2, MMM, and 15, Mr. Doble?

Mr. Scofield: Read the question.

(Question read by the reporter.)

The Witness: They are all the same, that is, the outside diameter of all of the scratchers which you have enumerated have a 10¼-inch diameter.

RDQ.39: (By Mr. Lyon): And they are all 5½-inch casing scratchers? A. Yes, sir.

RDQ.40: Mr. Doble, I have placed the scratcher Exhibit HHH upon a ruler to determine its approximate [2642-365] outside diameter. Will you

(Deposition of William A. Doble.)

tell me what that approximate outside diameter is?

A. As best I can judge it appears to be $7\frac{1}{2}$ inches.

RDQ.41: I am going to place Exhibit UU for identification, and I will offer UU in evidence at the present time, over Exhibit HHH. I am going to place Exhibit M on top of this stack, and I am going to place Exhibit 14 on top of that pile, and I am going to place Exhibit KKK on the top of that, and I am going to ask you to determine as near as possible by sight whether or not these scratchers are all of approximately the same external diameter? A. Yes, they appear to be.

RDQ.42: During the tests, Mr. Doble, with any of the scratchers you have made, did you determine whether or not there was any precise uniformity of length of the wires in any of these scratchers?

A. I would like to have your question read, Mr. Lyon, if I may.

(Question read by the reporter.)

The Witness: No, I have not. The scratchers are not, you might say, precision made instruments, and there is considerable variance in the wires, their angular relation to the body portion of the scratcher; [2642-366] such bends as are placed in the wires vary, and of the good many scratchers that I have seen in stock in the B & W warehouse in Long Beach I noticed there that it was general for one or more of the wires to vary slightly in angle or length with relation to another. They

(Deposition of William A. Doble.)

are not a precision manufactured article, and there is no need that they be. They work just as well, constructed in the manner they are constructed, as a practical operation. [2642-367]

* * *

Direct Examination

By Mr. Lyon:

Q.1: You are the same William A. Doble who previously testified in this matter?

A. Yes, sir.

Q.2: I believe under my suggestion you have had certain devices made and certain tests made since you have last testified, is that correct, Mr. Doble? A. That is correct. [2642-377]

Q.3: I hand you a couple of devices and ask you what these are?

A. The first device which you have handed me is a tool, a hand-operated tool for winding spring coils.

Mr. Lyon: I will ask that this device be marked Petitioner's Exhibit 7G.

(The device referred to was marked by the reporter as Petitioner's Exhibit 7G for identification and made a part of this deposition.)

Q.4: (By Mr. Lyon): The second tool is what?

A. The second tool which you have handed me is a tool for forming an eye at the fastening end of a scratcher whisker spring coil.

(Deposition of William A. Doble.)

Mr. Lyon: I will ask that this second wire eye forming tool be marked Petitioner's Exhibit 7H.

(The device referred to was marked by the reporter as Petitioner's Exhibit 7H and made a part of this deposition.)

Q.5: (By Mr. Lyon): Where did these tools come from, 7G and 7H, Mr. Doble?

A. I had an Adams-Campbell man—I had the Adams-Campbell Company make the tools, Petitioner's Exhibits 7G and 7H. I went down to Adams-Campbell on March 4 of this year and instructed Mr. Stewart Kipper [2642-378] to make the two hand tools.

Q.6: From what did you instruct Mr. Kipper to make these tools?

A. From a description which you gave me of the tools and from a sketch which you had made of the tools, and I mean by you, Mr. Lewis E. Lyon.

Q.7: After these tools were made, was anything done with the tools?

A. Yes, after the tools were made, Mr. Lewis Lyon and I operated the tools in the plant of Adams-Campbell to there form spring wires similar to the spring wires used in the Weatherford scratcher.

Q.8: Did I give you any instruction, Mr. Doble, with respect to the manufacture of any scratchers at or about that time?

A. Yes, a few days after that time you instructed me to have Adams-Campbell make a

(Deposition of William A. Doble.)

Weatherford type of scratcher having a 5½-inch—that is, for a 5½-inch casing, in which the spring coils, the wires of the scratcher, had a sidewise—that is, the axis of the coils had a sidewise inclination to a radius—to the several radii of the scratcher and in which the outwardly or sidewise inclined free ends of the wire were substantially tangent to the body of the scratcher.

Mr. Scofield: That was in March, [2642-379] 1953?

The Witness: That was March 12, 1953.

Q.9: (By Mr. Lyon): Was Adams-Campbell requested to use any particular tool in making this 5½-inch Acme type scratcher that I requested you to make on March 12, 1953?

A. Yes, they were instructed to use the two hand tools, Petitioner's Exhibits 7G and 7H, in forming the coils and fastening the ends of the spring wires for this particular scratcher and were also instructed to make that scratcher in accordance with the advertisement of the Acme scratcher which we had used in the operation of some previous samples.

Q.10: Was any other change made in this new Acme type scratcher than the previous Acme type scratchers which have been here introduced in evidence?

A. No, sir.

Q.11: That is, the only change was the change in direction of inclination of the coils?

A. That is correct, as closely as we could duplicate it.

(Deposition of William A. Doble.)

Q.12: I hand you a scratcher and ask you if you can identify that.

A. Yes, this is the scratcher which resulted from my instruction to Mr. Stewart Kipper of Adams-Campbell to make an Acme type scratcher similar to the [2642-380] Acme advertisement, in which the axis of the coils extended at a sidewise inclination from the radius of the scratcher body.

Q.13: I notice that you have inserted something through one of the coils. What is that, Mr. Doble; what have you done?

A. I have placed about a four-inch piece of steel rod, which closely fits the inside bore or inside opening of the spring portion of the wire and have inserted that rod through the spring and have observed the inclination, sidewise inclination of that rod with relation to the center or the radii of the scratcher body.

Q.14: In what direction do the wires, the ends of the wires which extend outwardly from the collar of this Acme type scratcher extend, Mr. Doble?

A. Substantially tangential to the body portion, the outside body portion of the scratcher.

Q.15: You have stated, I believe, that this scratcher which I will now ask be marked 7I, was made from an advertisement of July 7, 1941. Is that your testimony, Mr. Doble?

A. Yes, sir, that is correct.

(The Acme scratcher referred to was marked by the notary public as Petitioner's Exhibit

Deposition of William A. Doble.)

71, and made a part of this [2642-381] deposition.)

Q.16: (By Mr. Lyon): What do you mean by that?

A. Well, I instructed Mr. Stewart Kipper to in all respects duplicate the teaching of the advertisement of the Acme wall scratcher occurring in—I forget—the Petroleum——

Mr. Scofield: Oil Weekly.

The Witness: ——Oil Weekly of June 7, was it?

Q.17: (By Mr. Lyon): July 7.

A. What year? I don't remember.

Q.18: 1941. A. 1941.

Mr. Lyon: That is in evidence as the Petitioner's Exhibit Z and the enlargement is Exhibit Z-1.

Q.19: After this scratcher, Exhibit 7I, was made, what was done with it, if anything?

A. Nothing particularly was done with it except it was observed and checked with the advertisement, and I believe it has been in your office since that time.

Q.20: I hand you Petitioner's Exhibit AA, and I will ask you if this is the Acme scratcher that you testified to that had been previously made, and which was like Exhibit 7I, except for the particular which you pointed out; is that correct? [2642-382]

A. That is correct.

Q.21: After March 12, 1953, did I direct you to make any further tests of any kind, Mr. Doble?

A. Well, yes, you did.

(Deposition of William A. Doble.)

Q.22: Or determinations?

A. I believe it was on March 4 you instructed me to have a machine made for the purpose of testing to determine whether or not a Weatherford scratcher during its passage through a cylinder would cause a simulated casing to rotate during the passage of the structure through the tube. I talked the matter over with Mr. Kenneth Wright, and he arranged to have a testing machine built, and that machine was built by the L & L Machine Company——

Q.23: L & S Machine Company, is it not?

A. L & S Machine Company, whose plant is located at 1937 Obispo Avenue, in Long Beach.

Mr. Lyon: Just before we get into that I will offer in evidence at this time the wire coil winding tool heretofore identified as Exhibit 7G for identification, as Exhibit 7G, and I will [2642-383] offer——

* * *

Mr. Lyon: I will offer in evidence at this time the wire eye-forming tool heretofore identified as Exhibit 7H, as Exhibit 7H.

* * *

Mr. Lyon: I will offer in evidence at this time the 5½-inch Acme scratcher heretofore identified as Exhibit 7I, as Exhibit 7I.

* * *

Q.24: (By Mr. Lyon): Going back to these rotation tests, Mr. Doble, you say you built a testing

(Deposition of William A. Doble.)

machine—— A. No.

Q.25: ——or had a testing machine built; is that correct?

A. That is correct, by the L & S Machine Company in Long Beach. What about that pin sticking through the coil? Are you going to make that a part of the exhibit?

Q.26: You are interested in the pin?

A. No, I just want to know.

Mr. Lyon: I will ask that the drill rod which Mr. Doble used in his demonstration, which is now projecting through one of the coils in Exhibit 7I, be marked and received in evidence as Exhibit 7J. [2642-384]

* * *

Q.27: (By Mr. Lyon): I hand you a photograph, Mr. Doble, and ask you if you can tell me what that is?

A. The photograph which you have handed me, Mr. Lyon, is a side elevation of the testing machine which Mr. Wright had constructed at the L & S Machine Company plant in Long Beach.

Mr. Lyon: I will ask that the photograph which has just been identified by the witness be marked as Petitioner's Exhibit 7K.

(The photograph referred to was marked by the reporter as Petitioner's Exhibit 7K for identification and made a part of this deposition.)

Q.28: (By Mr. Lyon): I hand you a second

(Deposition of William A. Doble.)

photograph, Mr. Doble, which I will ask be marked Exhibit 7L, and ask you if you can tell me what that photograph is.

A. The photograph which you have handed me and asked to be marked as Petitioner's Exhibit 7L is a solid steel rod to give it weight which we used to simulate a well casing and this photograph also includes a ball bearing thrust mounting which has been removed [2642-385] from the cylinder or casing and placed upon the top of the casing so that it could be readily observed. The ball bearing mounting is provided to permit the casing to freely rotate relative to its supporting line.

(The photograph referred to was marked by the reporter as Petitioner's Exhibit 7L for identification, and made a part of this deposition.)

Q.29: (By Mr. Lyon): I hand you a photograph, Mr. Doble, which I will ask to be marked Petitioner's Exhibit 7M and ask you what this is a photograph of.

(The photograph referred to was marked by the reporter as Petitioner's Exhibit 7M for identification, and made a part of this deposition.)

The Witness: The photograph which you have handed to me and is marked Petitioner's Exhibit 7M is a side view of the cylinder which we used to simulate the casing and is similar to the exhibit,

(Deposition of William A. Doble.)

Petitioner's Exhibit 7L, with the exception that the ball bearing supporting means is mounted within the casing and the scratcher confining bands have not been placed upon the casing as they appear in Petitioner's Exhibit 7L.

Q.30: (By Mr. Lyon): I hand you a photograph, Mr. Doble, which I will ask be marked for identification as [2642-386] Petitioner's Exhibit 7N and ask you if you can tell me what this photograph shows?

(The photograph referred to was marked by the reporter as Petitioner's Exhibit 7N for identification, and made a part of this deposition.)

The Witness: The photograph, Petitioner's Exhibit 7N, which you have handed to me is a side elevation of the winding drum around which the four-inch spring steel band is wrapped.

Mr. Scofield: Did you say winding drum?

The Witness: Yes, winding drum. It also shows a pin extending through the side flanges of the drum to prevent the band from unwinding.

Q.31: (By Mr. Lyon): I hand you a photograph, Mr. Doble, which I will ask to be marked Petitioner's Exhibit 7-O for identification and ask you to tell me what this photograph is a picture of.

(The photograph referred to was marked by the reporter as Petitioner's Exhibit 7-O for identification, and made a part of this deposition.)

(Deposition of William A. Doble.)

The Witness: The photograph which you have handed me, Petitioner's Exhibit 7-O, is a view similar to Petitioner's Exhibit 7M upon which three Weatherford [2642-387] type scratchers have been mounted. Those scratchers were identified with the letters "F," "G" and "H."

Q.32: (By Mr. Lyon): While we are on Exhibit 7-O, will you tell me whether or not the scratchers were mounted all with the wires extending in the same direction? A. They are.

Q.33: There is no reversal of the position of the scratchers so far as one with the other?

A. No, sir, there is not.

Q.34: I hand you another photograph, Mr. Doble, which I will ask to be marked Petitioner's Exhibit 7P for identification, and ask you if you can tell me what this is a photograph of?

(The photograph referred to was marked by the reporter as Petitioner's Exhibit 7P for identification, and made a part of this deposition.)

The Witness: The photograph which you have handed me and which has been identified as Petitioner's Exhibit 7P illustrates a three-quarter front view of the testing machine with the winding drum assembled on the hoisting motor, the band extending from the hoisting drum over the pulley on the swinging arm and the band then extending down, and attached to the lower end of the band may be seen the casing assembly as shown in Petitioner's

(Deposition of William A. Doble.)

Exhibit [2642-388] 7-O. The assembly of the three scratchers on the casing is the same as shown in Petitioner's Exhibit 7-O and the bottom of the simulated casing is resting on the floor.

Mr. Lyon: I hand you a further photograph, Mr. Doble, which I have marked for identification Exhibit 7Q and will ask you if you can tell me what this is a photograph of.

(The photograph referred to was marked by the reporter as Petitioner's Exhibit 7Q for identification, and made a part of this deposition.)

The Witness: Petitioner's Exhibit 7Q illustrates the testing machine, and discloses the hoisting arm which has been numbered "8," and the number appearing just below its pivot point on the cylinder which simulates a well bore.

Mr. Scofield: It has been numbered what?

The Witness: "8." If you will notice just below its pivot point on that arm——

Mr. Scofield: Oh, I see it.

The Witness: ——there is a number "8."

Mr. Scofield: I see it.

The Witness: And the scratchers assembled on the simulated casing appeared just as they are ready to [2642-389] enter the upper end of the cylinder.

Q.35: (By Mr. Lyon): I hand you another photograph, Mr. Doble, which I will mark 7R for

(Deposition of William A. Doble.)

identification, and ask you if you can tell me what that is a photograph of.

(The photograph referred to was marked by the Notary Public as Petitioner's Exhibit 7R for identification, and made a part of this deposition.)

The Witness: Petitioner's Exhibit 7R is similar to Petitioner's Exhibit 7Q, excepting that the view has been taken from about three-quarters rear view, and in this Exhibit 7R the simulated casing carrying the three scratchers has been progressed through the cylinder which simulated a well bore.

Q.36: (By Mr. Lyon): I hand you a further photograph, Mr. Doble, which I have marked 7S for identification, and ask you if you can tell me what this is; at the same time I will hand you a second photograph which I have marked for identification as Exhibit 7T. Maybe you can explain these two together.

(The photographs referred to were marked by the Notary Public as Petitioner's Exhibits 7S and 7T for identification, respectively, and made a part of this deposition.)

The Witness: Petitioner's Exhibit 7S [2642-390] is a photograph of the lower end of the cylinder, and shows me checking, by means of a scale and a center head, to determine whether there has been rotation of the simulated casing during its passage

(Deposition of William A. Doble.)

through the large cylinder which simulated the well bore.

Petitioner's Exhibit 7T is a view of the top end of the test machine, and shows me in position in which I was checking the alignment of certain scribed lines on the simulated casing, with corresponding scribed lines on the bottom and outer surface of the large cylinder which simulated the well bore. It can be observed from this photograph the scribed lines on the upper end of the casing, and also the scribed line on the outside of the large cylinder. In this manner I checked to determine whether there was or was not rotation of the simulated casing during its passage through the long cylinder, and I found absolutely no rotation of the simulated casing during its passage through the large cylinder.

Q.37: (By Mr. Lyon): I will hand you another photograph, Mr. Doble, which I have marked 7U for identification, and I will ask you if you can tell me what this is a picture of?

(The photograph referred to was marked by the Notary Public as Petitioner's [2642-391] Exhibit 7U for identification, and made a part of this deposition.)

The Witness: Petitioner's Exhibit 7U is a photograph of the long cylinder which has been removed from the testing machine, and a cut taken longitudinally through one of the side walls of the cylinder. I might say that a similar cut was taken on the

(Deposition of William A. Doble.)

back which does not show in this photograph, although the back cut was not cut all the way through the cylinder.

Q.38: (By Mr. Lyon): I hand you a further photograph that I will mark 7V for identification, which I will ask if you can identify, and tell me what this is a picture of?

(The photograph referred to was marked by the Notary Public as Petitioner's Exhibit 7V for identification, and made a part of this deposition.)

The Witness: Petitioner's Exhibit 7V is a photograph showing the cylinder of Petitioner's Exhibit 7U spread apart so that its two halves which are identified as "1B" and "1A," so as to expose the interior surface of the large cylinder which has been blackened, and on the inner surface there is clearly scribed the lines made by the three ends of the wires of the three Weatherford scratchers as they passed through this large [2642-392] cylinder.

Q.39: (By Mr. Lyon): On this series of photographs, Exhibits 7K to 7V, they were taken by whom and under whose supervision, Mr. Doble?

A. All of the exhibits, photographs from 7K to 7V were taken by Mr. Lewis Lyon, Jr., who is known in the trade as Beans Lyon, and were taken under my direction in my presence at the L & S Machine Company plant at 1937 Obispo Avenue in Long Beach.

Q.40: When?

A. On April 3, 1953.

(Deposition of William A. Doble.)

Q.41: Now, these photographs, the machines and parts shown in these photographs I note carry on the respective parts identifying letters and numbers. Using those identifying letters and numbers where possible, will you describe for me this machine, in the first instance describing each of those parts, the manner of its assembly and the manner of its operation.

A. I will refer first to Petitioner's Exhibit 7L in this group of exhibits. In this exhibit, there is depicted a cylinder which I have given the identifying letter capital "A" to. This cylinder is a solid rod so as to give it sufficient weight to carry the scratchers later mounted upon it through the bore on the last cylinder. This cylinder "A" simulates a well [2642-393] casing. It is 5½ inches in diameter, it is 16¾ inches long and is provided with four scratcher confining bands, "B," "C," "D," and "E." All of those I made reference to will be capitals unless I otherwise tell you.

The stock bands or parts "B," "C," "D," and "E" are retained in position each by a plurality of Allen type setscrews as can clearly be seen in the photograph. On top of the simulated casing there is mounted the thrust and radial bearing which is used to eliminate any outside tendency to cause rotation of the casing "A" during its passage through the large cylinder.

Q.42: Now, stop right there. Does that bearing mounting mean that what you have called the casing

(Deposition of William A. Doble.)

or solid rod "A" is free to rotate at all times on the bearing?

Mr. Scofield: That is objected to as leading.

The Witness: Yes, that is true and it could be readily spun, which I did prior to running the test to see that the bearing was properly adjusted so that any tendency to locate the connecting eye in the supporting bolt during operation would not transmit rotation to the casing "A."

In Petitioner's Exhibit 7M the bearing——

Mr. Scofield: M or N? [2642-394]

The Witness: M—the bearing is mounted within casing "A" and shows the projecting end of the supporting belt projecting above the casing.

I will now refer to Petitioner's Exhibit 7K. In Petitioner's Exhibit 7K there is a large tube or cylinder which I have——

Mr. Lyon: It is marked "6" on 7P. You had better take this pen——

The Witness: No, it is marked on Petitioner's Exhibit 7K and in this case there is a numeral "1-A" down at about the center portion of the cylinder.

Q.43: (By Mr. Lyon): Well, on 7K it might be well to take the pen and put the numbers on 7K, using the pen, putting the numbers and a little line, if you will, describing these parts, Mr. Doble, because they unfortunately do not appear fully to my feeble eye on the photographs. I can see it now. There it is, right there.

A. May I have the exhibits.

Deposition of William A. Doble.)

Mr. Lyon: I will hand Mr. Scofield a set of the exhibits, photographs Exhibit 7A to 7V.

The Witness: I have placed on 7A the numeral "1," followed by a small capital "A" and a lead line to the large cylinder. I will also put a circle around the numeral "1" with the letter capital "A" on the center of [2642-395] the cylinder, which number and letter were placed on the cylinder before the photograph was taken.

The cylinder is mounted in a frame which comprises a collar "2" and I am placing the numeral "2" opposite the collar and extending a lead line to the collar. However, it will be observed that approximately in the center of the collar there is the numeral "2," although it is not very distinct. The collar of the frame is supported on three legs which we will number "3," "4," and "5." This tripod frame arrangement retains the cylinder in its upright direction and its lower end spaced sufficiently from the floor level so that the scratcher assembly on the simulated casing may pass through the cylinder and, as it may be observed in Petitioner's Exhibit 7K, the scratcher assembly on the casing, on the simulated casing, is positioned to the left-hand side of the tube and shows that it would clear the lower end of the cylinder when it passed therethrough. To the upper end of the cylinder is mounted a collar "6" and I am placing upon Petitioner's Exhibit 7K the numeral "6" with a lead line to the collar. To the right-hand side of the collar——

(Deposition of William A. Doble.)

Q.44: (By Mr. Lyon): You had better watch Exhibit 7T, Mr. Doble, and be sure you are following the same numbers which are very visible on Exhibit 7T. [2642-396]

A. Yes. In fact, you can just barely distinguish the numeral "6" on the center of the collar in Petitioner's Exhibit 7K and I will put a circle around the numeral "6." Now, if we will turn to Petitioner's Exhibit 7T, not only is the numeral "6" clearly visible on the center of the collar, but the figure "7" is also clearly visible on a pair of lugs which extend outwardly from the collar, and in Petitioner's Exhibit 7T I will put a circle around the "6" on the collar and the "7" on the lug.

To the outer end of the lug "7" there is pivotally mounted a swinging arm "8." I will circle the "8" with an ink line there, and will also place the numeral "8" to the side of the arm with a lead line to the arm, that is, I am placing the figure "8" on Petitioner's Exhibit 7K.

Mounted on the lower end of the ascending arm "8" is a motor-driven hoist, which has the numeral "10." However, I will place the numeral "10" to the side of the motor hoisting unit, with a lead line to the hoisting unit.

On the upper end of the hoisting arm "8" is a pulley, which I will designate with the numeral "9," with a lead line extending to the pulley. I am afraid that there might be some confusion with the number "9." [2642-397]

Q.45: That is "9." You just rotated it around.

(Deposition of William A. Doble.)

A. Mounted on the hoisting motor unit "10" is a hoisting drum identified by the numeral "11" with a small "d," and I have placed the numeral "11" with a small "d" to the side of the hoisting drum, with a lead line extending to the drum.

Extending from the drum "11d" is a spring steel band "12." The band extends up and round pulley "9," and down to a latch "13," which latch latches onto the eye, as is most clearly observed in Petitioner's Exhibit 7L. I will give the eye a number, eye "14."

Mr. Scofield: Is the latch you are referring to that hook?

The Witness: Yes, sir.

Mr. Scofield: What number was that given?

The Witness: "13." The eye is "14." I am not marking the number "14" on the eye in Petitioner's Exhibit 7K, because it does not appear clearly in that photograph, but have marked it on Petitioner's Exhibit 7L, and I will also mark it on Petitioner's Exhibit 7M.

The eye "14" is formed in the upper end of the supporting bolt "15," which I am identifying on Petitioner's Exhibits 7K, 7L, and 7-O.

Q.46: (By Mr. Lyon): That is which, "15"?

A. "15" is the bolt, the supporting bolt on which the ball bearing is mounted.

Now, I will refer to Petitioner's Exhibit 7L, and will designate the ball bearing with a numeral "16," with a lead line extending to the bearing. The bearing is disassembled, partially disassembled,

(Deposition of William A. Doble.)

as it appears in Petitioner's Exhibit 7L. It includes a ball bearing unit, upper and lower thrust rings all of which are mounted on the supporting bolt. I will again point out that the bolt with its bearing are mounted in the casing "A," as shown in Petitioner's Exhibit 7L, and that, as may be observed in this Petitioner's Exhibit 7L, there are a plurality of stop rings "B," "C," "D" and "E," all of which are capital letters.

Now, I will refer to Petitioner's Exhibit 7-O, and will point out that in this exhibit there is mounted on the casing "A" three Weatherford 5½-inch standard scratchers which have been identified by the letters "F," "G" and "H," and I will call attention to the space between the upper edge of each of the scratchers, that is, the upper edge of the body of each of the scratchers with relation to its adjacent stop ring. For example, the scratcher "F" is positioned by the stop rings "B" and "C," leaving a space of about an inch and a half between the upper edge of the scratcher [2642-399] "F" and the lower edge of the stop ring "B." The cylinder which represents the casing is indicated by the capital letter "A," which can be seen between the letters "D" and "F." Likewise, there is space between the upper edge of the Weatherford scratcher "G" and its related upper stop ring "C," and in that space may be observed the "A," which was placed upon the casing, and in the same way the space between the upper edge of the Weatherford scratcher "H" and its stop ring "D" can

(Deposition of William A. Doble.)

also be observed. The three scratchers were freely rotatable upon the casing "A" and could shift longitudinally freely between their respective stop collars.

Q.47: I believe you have now described the mechanical assembly of these parts, and now will you describe the operation which was performed on the scratchers in this machine and in this assembly which resulted, if it did, in the formation of the tracing as shown in the cylinder Exhibit 7V, Mr. Doble.

* * *

The Witness: I will first refer to Exhibit 7K, and also to Petitioner's Exhibit 7P. In each of these two exhibits the casing with the scratchers mounted thereon has been connected to the spring band by the connecting mechanism which I have previously stated. [2642-400] From this point the hoisting mechanism was put in operation, and the assembly of the scratchers was hoisted until it was about ready to enter the upper end of the large cylinder "6."

From this point——

Q.48: (By Mr. Lyon): That is shown in Exhibit 7Q, is it?

A. That is shown in Petitioner's Exhibit 7Q. At this point the hoisting mechanism was reversed, and the assembly was lowered until it entered, fully entered the internal bore of the large cylinder "1."

Q.49: That position is shown in what exhibit, if any?

(Deposition of William A. Doble.)

A. That position is shown in Petitioner's Exhibit 7T. Also shown in this petitioner's Exhibit 7T is the scribed lines on the outside and upper end of the large cylinder "1," and also the scribed line on the upper end surface of the casing "A."

The exhibit shows me aligning or checking the alignment of the scratcher assembly with one of the scribed lines on the upper end of the large cylinder "1-A." From this position the power was applied to the hoisting mechanism to release the band. The scratcher assembly progressed, that is, the assembly of three scratchers progressed until the lower end of the [2642-401] cylinder was in substantially the same plane as the lower end of the cylinder "1-A," and now I will refer to Petitioner's Exhibit 7S where it will be noted that I am checking the position of the scribed line in this case on the lower end of the casing "A" with the same scribed line on the outside periphery and bottom edge of the large cylinder "1-A," and I find the lines correspond exactly with the same positioning as they did at the top of the cylinder.

Q.50: Indicating what, if anything?

A. Indicating that there was no rotation of the simulated casing within the simulated well bore.

From that point the hoisting mechanism was operated to lower the scratcher assembly to the position it appears in Petitioner's Exhibit 7R, where it will be noted that the scratcher assembly is directly below the large cylinder "1-A," and its lower end is now resting upon the floor.

(Deposition of William A. Doble.)

Q.51: All right, was anything else done?

A. The mechanism was disassembled, taking the cylinder from its supporting frame and upper flange. It was placed in a shaper, and a groove was shaped down one side of the cylinder "1-A" until it almost extended through the side wall of the cylinder. The cylinder was then rotated in the machine 180 degrees, and a similar [2642-402] cut was taken along the longitudinal surface of the cylinder, and this cut was progressed until the cut passed completely through the cylinder wall, and that condition is shown in Petitioner's Exhibit 7-U. The cylinder was then spread open and the lines traced by the free ends of the wires of the three scratchers were traced on the inside of the cylinder "1-A," the inside surface of the cylinder having been blackened previously for that purpose, and each half of the cylinder was given the designation "1-B" and "1-A."

Q.52: As shown in what exhibit?

A. As shown in Petitioner's Exhibit 7V.

Also, Exhibit 7V clearly shows that not only did the simulated casing in rotation, but neither did any one of the three Weatherford scratchers mounted on the simulated well casing rotate during its passage through the well cylinder "1-A."

* * *

The Witness: In my opinion, it merely proves that there is no rotation transmitted from the

(Deposition of William A. Doble.)

scratchers to the simulated casing during the passage through a simulated well bore. [2642-403]

Mr. Scofield: Did you give a number to that top pulley?

The Witness: "9," No. "9," Mr. Scofield.

Q.54: (By Mr. Lyon): Mr. Doble, I will hand you a photograph or a photostat——

The Witness: Can we take time out for second?

Mr. Lyon: Surely, if you would like time out.

The Witness: I would, please.

(A short recess was here taken.)

Q.55: (By Mr. Lyon): The scratchers, Mr. Doble, as shown in Exhibit 7-O which are marked "F," "G," and "H," do you know where those scratchers came from? A. No, I don't.

Q.56: They were not scratchers specifically manufactured for this test? A. No, sir.

* * *

Q.57: (By Mr. Lyon): You have testified that they were Weatherford scratchers?

A. Yes, sir.

Q.58: How did you ascertain that fact?

A. From their appearance. They were the same as all other Weatherford scratchers which I had seen [2642-404] of this same type and I recognized the characteristics of their manufacture and was advised that they were standard Weatherford scratchers which had not been altered.

Q.59: I hand you a photograph or a photostat

(Deposition of William A. Doble.)

which I will mark Exhibit 7W, and ask you if you can tell me what this is of.

(The document referred to was marked by the reporter as Petitioner's Exhibit 7W for identification, and made a part of this deposition.)

The Witness: You have handed me a photograph——

Mr. Scofield: A photograph or a photostat?

The Witness: A photostat, which includes well casing having spaced rings welded thereon and mounted between the rings, spacing rings for a B & W wall cleaning guide, and I believe that it is one of the photographs from the Jones & Berdine report.

Q.60: (By Mr. Lyon): I will ask you, Mr. Doble, to measure on the bottom of the photostat the diameter of the casing and place that on the photograph, at the bottom of the photograph, as to what the indicated diameter of the casing is at that point.

A. I am measuring the bottom end of the casing and I find it to be 3-9/16ths inches and I [2642-405] will place lines extending from the edges of the casing as it appears in the photograph and will extend the dimension line with arrows between the two lines previously made and place the figure "13-9/16"——

Q.61: It is 3-9/16ths, isn't it?

A. Excuse me, "3-1/16th," I will cross out the "13" and make it "3-9/16ths."

(Deposition of William A. Doble.)

Q.62: Now, Mr. Doble, I will ask you to measure the indicated diameter of the casing immediately below the lower welded ring and will you mark that on the photograph?

A. I have made the measurement, Mr. Lyon, and find it to be $31\frac{1}{2}$ inches and I will place that on Petitioner's Exhibit 7W.

Q.63: Now, I want to ask you to measure the greatest exterior diameter of the scratcher to the outer-most wire as shown in Exhibit 7W and indicate that on the photograph.

A. I find by measuring the most outwardly extending wire on the left-hand side of the photograph and the most outwardly extending wire on the right-hand side of the photograph—and I am making dash lines from the wires which I have measured—and will put a dimension “7-5/16ths” between the dash lines.

Q.64: 7 and how much? [2642-406]

A. 5/16ths.

Q.65: Mr. Doble, I hand you a second photographic enlargement, which I mark “7X,” and ask you to tell me what that is a photograph of and measure the casing diameter at the center section of Exhibit 7W and indicate on the photograph 7W the diameter at the said central portions as you have measured it.

(The photograph referred to was marked by the reporter as Petitioner's Exhibit 7X for identification, and made a part of this deposition.)

(Deposition of William A. Doble.)

The Witness: The photostat which you have handed me, Petitioner's Exhibit 7X illustrates a well casing upon which has been mounted a Weatherford type of spring centralizer and appears to be taken from the Jones & Berdine report, and measuring the central portion of the casing, I find it to be three—well, it is hard to get it exactly— $3\frac{1}{2}$ inches, and I am placing dimension line " $3\frac{1}{2}$ " here, and $3\frac{1}{2}$ may be a little large and $3\text{-}7/16$ ths a little small. It is sort of halfway in between, but I will say $3\frac{1}{2}$ inches across the casing at the point where I have measured it.

Q.66: (By Mr. Lyon): Now, take it at that point and measure the greatest diameter of the spring steel blades, centralizing blades. [2642-407]

A. In measuring across the outwardly bowed springs of the spring centralizer, I find it to be $7\frac{3}{4}$ inches and I will mark the point which I have taken and I have placed the dimension " $7\frac{3}{4}$ " as the outside diameter of the springs of the centralizer.

Q.67: I will hand you, Mr. Doble, the Jones & Berdine report, which is Petitioner's Exhibit L, and ask you to compare Exhibits 7W and 7X with Figures 26 and 23 of the Jones & Berdine report and will ask you to read into the record at the time of the comparison a description of the photographs of the Jones & Berdine report.

A. I have now before me Petitioner's Exhibit L, a copy of the Jones & Berdine report, and I have turned to Figure 23, which bears the title "Spiral Spring Well Bore Cleaner and Casing Centralizer."

(Deposition of William A. Doble.)

Mr. Scofield: Fig. 23?

The Witness: Figure 23, "Outside Diameter of Centralizer Slightly Greater Than Inside Diameter of Test Well," and will compare Figure 23 with Petitioner's Exhibit 7X and would say that as far as the device as shown in the photograph, Petitioner's Exhibit 7X, it is identical to Figure 3—

Q.68: (By Mr. Lyon): Figure 23?

A. Figure 23, excepting that in the [2642-408] photostat the figure has been reversed so that the spiral of the spring members appears to have a right-hand spiral rotation in Exhibit 7X, whereas in Figure 23 they appear to have a left-hand rotation.

Q.69: Now, make the same comparison of 7W with Figure 26 of the Jones & Berdine report.

A. I have now before me Figure 26 of the Jones & Berdine report and Petitioner's Exhibit 7W.

Q.70: What does Figure 26 say below it?

A. Figure 26 states below as follows: "Wire wall scratcher with wires bent spirally. Outside diameter of scratcher slightly greater than inside diameter of test well," and I am comparing Petitioner's Exhibit 7W with Figure 26 and find they are identical excepting for size and the reversal of the direction of the wires due to the photostating process.

Q.71: Now, in each of Exhibits 7X and 7W you have indicated that the casing was approximately 3½ inches in diameter? A. Yes, sir.

(Deposition of William A. Doble.)

Q.72: And in 7W you have indicated that the outside diameter of the scratcher is $7\text{-}5/16$ ths?

A. Yes, sir.

Q.73: And in Exhibit 7X you have indicated that the outside diameter of the centralizer bows is $7\frac{3}{4}$? [2642-409]

A. Yes, sir.

Q.74: What would you say with reference to the notation made by the author that in each of these cases the diameter of the device is slightly greater than the inside diameter of the bag?

* * *

The Witness: "Slightly greater than" left considerable leeway, in this case over—about a quarter of an inch between these two instrumentalities. We notice that the centralizer has about $3/16$ ths greater diameter than the scratcher, showing the wide range of dimension contained within the notation "slightly greater than the inside diameter of the test well."

Mr. Scofield: Read that answer.

(The reporter read the answer.)

The Witness: I will have to correct that, my arithmetic was wrong. $7/16$ ths it should be instead of $3/16$ ths. There is almost a half an inch difference in the diameter.

Q.75: (By Mr. Lyon): One is $12/16$ ths against $5/16$ ths? A. That is right.

Q.76: Which leaves a difference of $7/16$ ths?

A. That is correct, so "slightly" in Mr. Jones' report gives quite a leeway as to the [2641-410] in-

(Deposition of William A. Doble.)

crease in diameter over the diameter of the te
bore.

Mr. Lyon: I will offer in evidence at this time the two photographs Petitioner's Exhibits 7W and 7X for the purpose of illustrating the testimony of the witness, and for the comparison which he has made.

* * *

Q.77: Now, Mr. Doble, I believe at my request you also made some further tests in another type of machine. What were those tests?

A. Those tests were performed on wall cleaning guides having different lengths of wires to determine their operating characteristics in a cylinder which approximated the inside of a well [2642-411] bore or approximated the well bore, and also on test on a close tolerance Weatherford scratcher.

Q.78: Were photographs taken of those tests?

A. Yes, sir.

Q.79: When were they taken?

A. They were taken on May 27, 1953, at the L & S Machine Company plant, at 1937 Obispo Avenue, Long Beach, and they were taken by Mr. Lewis Lyon, Jr., known to the photography trade as "Beans" Lyon.

Q.80: I hand you a photograph and ask you if this is one of the photographs that were taken at that time and place? A. Yes, sir, it is.

Mr. Lyon: Let us have this marked as Petitioner's Exhibit 7Y.

(Deposition of William A. Doble.)

(The photograph referred to was marked by the Notary Public as Petitioner's Exhibit 7Y for identification, and made a part of this deposition.)

Q.81: (By Mr. Lyon): Of what is this a photograph?

A. Petitioner's Exhibit 7Y is a photograph illustrating the hydraulic centralizer testing machine readapted——

Q.82: What testing machine?

A. Hydraulic testing machine for [2642-412] testing centralizers, B & W centralizers, and it was readapted so that the tests we wished to make on the wall cleaning guides and the Weatherford close tolerance scratcher could be run on this same machine.

Q.83: I hand you a second photograph, which I will ask be marked at Petitioner's Exhibit 7Z, and ask you if you can identify this picture as to whether it was a picture taken at the time and place you have testified, and, if you will, testify what it is a picture of.

(The photograph referred to was marked by the Notary Public as Petitioner's Exhibit 7Z for identification, and made a part of this deposition.)

The Witness: Petitioner's Exhibit 7Z is a photograph of the same hydraulic machine, although the same machine does not appear in the photograph, as the machine was set up to run a close tolerance

(Deposition of William A. Doble.)

Weatherford scratcher in a cylinder mounted in the frame of the machine.

Q.84: Did you testify as to the day these photographs were taken?

A. These photographs were taken on May 27, 1953. All the photographs of this particular test were taken on the same day. [2642-413]

Q.85: At the same place?

A. At the same place, by the same photographer.

Q.86: Will you describe briefly this machine of Petitioner's Exhibit 7Y?

A. Referring to Petitioner's Exhibit 7Y, the machine includes a base "D." The letter "D" may be clearly observed on the front face of the base. Upwardly standing from the base are two upright channel irons, identified by the letters "C-1," and "C-2." Mounted in those channels, each is provided with a hydraulic cylinder, the first "B-1" and the second, "B-2." Extending upwardly from the hydraulic cylinders are piston rods. These are not identified by letter or number. To the upper end of the piston rods is connected a crosshead. Mounted in the central portion of the crosshead between the two piston rods is a fitting to which a piece of casing identified by the letter "A" was attached. Upwardly standing from the base "D" is a square shaft "E," which is arranged to enter into a square opening formed in the lower end of the casing "A."

Q.87: For what purpose?

A. For the purpose of preventing rotation of casing "A" and to maintain the casing "A" in

(Deposition of William A. Doble.)

correct [2642-414] centralized arrangement with respect to the cylinders which represent an oil well bore. In other words, the square rod "E" is a centralizer for the casing and prevents its rotation.

Mounted on casing "A" is a B & W wall cleaning guide which is mounted between two stop rings. The stop rings were secured to, or fastened to, the casing "A" by suitable setscrews. Supported on the standard "C1"- "C2" is a secondary framework upon which cylinders simulating a well bore could be mounted. The cylinder in Petitioner's Exhibit Y is identified by the letter "F1". The internal surface of the cylinder was blackened so that as the scratcher passed through the cylinder, the free ends of the scratcher wires could trace or scribe their true path on the blackened surface of the cylinder. Cylinder "F1" is a split cylinder; that is, it is formed of two halves bolted and dowel pinned together, so the effect during the operation was to make it a single cylinder.

There is a motor driven hydraulic pump mounted on the base of the machine and suitable control valves for operating the hydraulic cylinders to cause casing "A" to either move upwards or downward or stay in any set position.

Q.88: Now, this machine then differs [2642-415] from the machine which you testified about this morning, and as is shown in Exhibit 7K, in respect to the manner in which the simulated casing is raised and lowered, is it not?

(Deposition of William A. Doble.)

The Witness: That is correct.

Q.89: (By Mr. Lyon): How does it differ in that respect?

A. In Petitioner's Exhibit 7K the assembly of scratchers is mounted on a flexible spring steel band "12," whereas in Petitioner's Exhibit 7Y, a single scratcher is mounted upon a piece of casing and that piece of casing is supported on the crosshead so that it may be moved up and down directly due to the action of the pressure fluid in the hydraulic cylinders "B1" and "B2" and the cylinder is prevented from rotation and maintained in axial alignment by the square shaft "E."

Q.90: In Exhibit 7Y I note what appears to be a scratcher on the casing "A." Is that a scratcher?

A. Yes, sir, it is.

Q.91: What type?

A. That is the B & W wall cleaning guide.

Q.92: Was a test made of that particular scratcher? A. Yes, there was. [2642-416]

Q.93: Before describing that test, how was the wall cleaning guide mounted onto casing "A"?

A. The wall cleaning guide was mounted on the casing between two stop rings. The stop rings are spaced sufficiently apart as to permit some freedom of movement of the scratcher along the outer surface of the casing and also to enable the scratcher to rotate freely on the casing.

Q.94: How does that compare, if at all, with the manner of mounting of the scratchers on the simulated casing in Exhibit 7K?

Deposition of William A. Doble.)

A. In the same general manner, each mounted between spaced stop rings, each providing clearance for some longitudinal movement of the scratcher and each permitting free rotation of the scratcher on the simulated casing.

Q.95: Mr. Doble, you have testified that this particular scratcher was mounted on casing "A" of Exhibit 7Y for the purpose of a test. Was such test made? A. It was.

Q.96: Will you describe the test?

A. The machine was set up as shown in Petitioner's Exhibit 7Y. The motor driven fluid pump was put in operation. The control valve [2642-417] was operated to move the cylinder "A" downwardly and the cylinder "A" moved until it engaged the square rod "E," then progressed further until the wires of the scratcher engaged the bore of the cylinder "F1." The pressure was maintained in the cylinders so that the scratcher progressed down through the bore of cylinder "F1" until it reached the vicinity of the bottom of the bore in cylinder "F1," at which point the hydraulic valve was reversed and the casing was raised—casing "A" was raised until the scratcher reached the upper portion of the bore of cylinder "F1," then by means of the control valve, the scratcher was moved downwardly, then upwardly, downwardly, and then up and out.

Q.97: Was a trace of the scratcher wires observed at that time?

A. Yes, a trace—I observed, personally observed

(Deposition of William A. Doble.)

the action of the wires on the scratcher during all its upward and downward movement. I noted the reversal of the wires and I measured the rotation of the scratcher on the casing "A."

Q.98: You say the trace was observed, is that correct? A. Yes, that is correct.

Q.99: Was there any photographic reproduction made of the trace produced in this [2642-418] particular test?

A. After the test was completed, cylinder "F1" was removed from the machine. It was divided in its two halves and each of the two halves was photographed. On one of the photographs——

Q.100: Just a moment, I hand you two photographs, marked for identification Exhibits 8A and 8B, and ask you if you can identify those photographs.

(The photographs referred to were marked by the reporter as Petitioner's Exhibits 8A and 8B for identification, and made a part of this deposition.)

The Witness: I have before me Petitioner's Exhibits 8A and 8B, which are photographs of the two halves of the cylinder "F1." The photograph has the letter "F" on the upper left-hand end of the flange with the figure "1" just below it. The second photograph is of the other half of the cylinder "F1" and on the flange, bolting flange, at the upper left-hand end is the identification "F2" and the photograph clearly illustrates the pattern made

Deposition of William A. Doble.)

y the wires of the scratcher during its travel up and down and out of the cylinder.

Q.101: (By Mr Lyon): You state that you had measured the amount of rotation. How did you measure the amount of rotation?

A. By putting a mark on the upper [2642-419] range or upper edge of the scratcher body and aligning that mark with a scribe mark on the periphery of the casing "A," and after each reciprocation or after each reversal measuring the amount of rotation of the scratcher with relation to the casing "A."

Q.102: How, if at all, did that amount of rotation correspond with the spacing between the traces of Exhibits 8A and 8B?

A. Well, it corresponded directly. The traces indicate the amount of rotation, and the amount scribed on the cylinder is the amount the collar or body portion of the scratcher rotated with relation to the casing "A."

Q.103: I note on Petitioner's Exhibits 8A and 8B there are spaces between the vertical lines. The distance apart of those vertical lines is a certain measurement. Now, did that measurement compare in any way with what you observed by your scribe lines on the upper part of the cylinder or on the outside of the collars to be the actual rotation of the scratchers' first stroke? A. Yes. [2642-420]

* * *

Q.104: Now, Mr. Doble, you have testified as to the rotation of the wall cleaning guides on several

(Deposition of William A. Doble.)

different tests. Have you anything to say with reference to what determines the rotation of a wall cleaning guide in a test of this kind?

* * *

The Witness: Yes, the over-all length of the wires of a scratcher are of greater diameter than the internal diameter of the cylinder in which they have been operated, so that, first, due to the normal sidewise inclination of the wires, scratcher wires and secondly, due to the upwardly and sidewise inclination taken by the wires as they enter the smaller cylinder, that is, they are forced upward at an angle, sidewise angle, so that when the direction of travel of the casing is reversed the free ends of the wires engage the inside diameter of the cylinder, and there is sufficient friction to resist the sliding of the fingers along the cylinder during the reversal, at least a portion of the reversal, and the wires must be straightened before they can be inclined downwardly, and it is during that portion of the reversal that, in bringing the wires [2642-42] to a horizontal position, foreshortens the relation between the position the wires leave the surface of the scratcher, and as the wires are stiffened up resist that foreshortening they push the collar of the scratcher around on the casing upon which the scratchers are mounted. That takes place in the initial portion of the reversal, that is, from the upward and sidewise inclination of the wires, until the wires reach substantially a horizontal plane. There

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after the wires swing downwardly or angle downwardly and trace a pattern, a pattern having a spiral or sidewise motion on the cylinder in direct proportion to the amount of rotation of the body portion of the scratcher.

Mr. Scofield: Let us read that back, will you, please?

(The answer was read by the reporter.)

Q.105: (By Mr. Lyon): Mr. Doble, what did you mean by the statement "must be straightened"?

A. I mean by that that—I can probably illustrate that with a wire that you have here. I forget what exhibit number it is. I have now in my hand Petitioner's Exhibit 6Y, and I will assume the edge of the pad which I have to be the cylinder wall, and I will position the extending free end of the wire at an incline to the edge of the cylinder wall, [2642-422] as an illustration of how the wire might be bent up. It would not exactly follow the line that this particular wire takes because there are no pressures applied to put a bend in it, but it will give a graphic illustration of what I am talking about. So, we have a wire inclined upwardly as the scratcher is moved into the cylinder. Then we reach a point where the casing will be reversed in a direction of its travel. The wire——

Mr. Scofield: What angle have you got between the wire and the cylinder?

The Witness: Oh, I will say about 30 degrees, but that is only just an illustration I am making.

(Deposition of William A. Doble.)

I do not want to be tied to any particular angle at the present time. Any angle would do.

Mr. Scofield: When I asked you that you bent it up quite considerably, didn't you?

The Witness: Yes, but I am not—the amount of angle is of no importance particularly, it only has to do with the amount of rotation it will give. So I will take, say about 30 degrees. The direction of travel of the casing is reversed, the scratcher is reversed, the free end or point of the wire engages the cylinder, and we might say fulcrums about the point at which it engages the cylinder and swings——

Q.106: (By Mr. Lyon): By “the cylinder” you mean the [2642-423] inside wall of the cylinder?

A. The inside wall of the cylinder, and as the fixed or fastened end of the wire moves upwardly it has to move on an arc from the fulcrum point or free end of the wire, and now I have moved the wire until it is in the position I referred to as “straight.” By “straight” I meant at substantially a horizontal plane. Now the point——

Q.107: What did you mean by “must be straightened”?

A. I meant that it must pass through a horizontal or normal plane. I do not mean that the wire is going to be straightened out if it has any additional bends in it. I mean that the body of the wire will fall into a horizontal plane where it will extend the greatest distance from its point of attachment to the body portion of the scratcher to its fulcrum point on the inside wall of the cylinder.

(Deposition of William A. Doble.)

Mr. Scofield: The horizontal plane you are referring to is assuming that your cylinder is positioned in a vertical position rather than a horizontal position as you have it on the table.

The Witness: That is correct. Then we can take the distance from the fixed point or the point at which the wire leaves the periphery of the cylindrical portion of the scratcher body to the inside wall of the [2642-424] cylinder, which represents the well bore, and that is a distance, when the wire is at a 30-degree angle, of less than the length of the wire. Now, that difference in length will be the amount, substantially the amount, to which the body portion of the scratcher will be rotated during the swinging of the wire from its angle to we might say its horizontal position with relation to the plane of travel of the casing. Then as the wire leaves or as the scratcher travels upwardly further, there is no force tending to rotate the body of the scratcher back, so that it progresses upwardly as it is rotated, and the wire seeks a new path, and that new path is traced by the sidewise motion particularly noticeable at the lower ends of the scratched lines on Petitioner's Exhibits 8A and 8B. The greater the angulation of the wire from the body of the scratcher to the inside wall of the well the greater will be the rotation.

Q.108: (By Mr. Lyon): Now, Mr. Doble, you made the statement that the greater the length of the wire the greater the rotation; is that correct?

(Deposition of William A. Doble.)

A. That is correct, up to——

Q.109: If a wire, for example, was $\frac{1}{8}$ of an inch longer, so that it gave an o.d. of $\frac{1}{8}$ of an inch greater than the inside of the casing, how much [2642-425] rotation would that induce in the scratcher on the casing?

A. I think I can give you that. I have it. It would give you about $\frac{1}{16}$ th of an inch rotation per stroke. During the three strokes I measured substantially a quarter of an inch rotation of the body or collar portion of the scratcher with relation to the scribe line on the casing "A."

Q.110: What is the diameter of a 14-gauge wire? Is it .072, Mr. Doble?

A. 14 gauge wire? I don't remember.

Mr. Scofield: I guess that can be stipulated, if we have a wire diameter table here.

Mr. Lyon: I have a table here, if I can find it. Here is a catalog, Mr. Doble. You find it.

Mr. Lyon: It has got to be in there somewhere. I saw it before. Look for a wire size cable.

The Witness: I am looking for the right one. There were several wire size cables, but it is the Birmingham, I believe, that I am looking for. Here we have it: the 14-gauge wire in the Birmingham or stub wire gauge is 83 thousandths.

Q.111: (By Mr. Lyon): 15-gauge wire?

A. 15-gauge wire is 72 thousandths.

Q.112: 16-gauge wire? [2642-426]

A. 16-gauge wire is 65 thousandths.

Deposition of William A. Doble.)

Mr. Lyon: You produce it, if you have it, if you have another one.

The Witness: There are several different wire gauge standards here and I was reading the Birmingham or stub wire gauge.

Q.113: (By Mr. Lyon): Using the U. S. standard, which is also before you, Mr. Doble, what is the size in that U. S. standard for 14-gauge?

A. The U. S. standard for 14-gauge is .078125.

Q.114: And for 15-gauge?

A. 15-gauge is .0703125.

Q.115: 16-gauge? A. It is .0625.

Q.116: I believe these wires are measured by the United States standard, are they not?

A. That I do not know.

Q.117: That is right, United States standard.

A. I think they are. I think it is identical to— it is according to where they are obtained. I think most of the dies in the U. S. Steel Company are U. S. standard. I believe Birmingham is used by Bethlehem.

Q.118: Mr. Doble, you were present at [2642-427] the time that there were some other photographs taken in this room during the taking of our depositions in chief here, at which time you and I and Mr. Scofield were present and Beans, my son Beans, took some photographs. I hand you a photograph of Exhibit M laid down with relation to Applicant's Exhibit 16. I ask you if you observed that photograph being taken?

(Deposition of William A. Doble.)

A. No, I did not; I was not present in the room when any photographs were taken.

Mr. Scofield: I believe the exhibit you have read Mr. Lyon, has the exhibit number of the scratches

Mr. Lyon: Yes, it is exhibited on the scratches on the cylinder, Exhibit 16, and I will offer the photograph in evidence at this time as the exhibit next in order, being the photograph taken at that time. [2642-428]

* * *

Q.120: Mr. Doble, you testified to a further test made at this time, in May of this year, at the L & Machine shop using the machine in [2642-429] Exhibit 7Z. A. 7Y.

Q.121: 7Z. And I hand you a photograph which I will mark Exhibit 8D for identification and ask you if you can identify this picture, and if so, what it is?

Mr. Scofield: Have you the print of that? I will save me from mixing up these exhibits here.

Mr. Lyon: Here is a set of exhibits, including the ones I will put in.

(The photo referred to was marked by the reporter as Petitioner's Exhibit 8D for identification, and is made a part of this deposition.)

The Witness: Petitioner's Exhibit 8D is a photograph of the testing machine, Petitioner's Exhibit 7Y, reassembled with the assembly changed to that shown in Petitioner's Exhibit 7Z. In Petitioner's

Deposition of William A. Doble.)

Exhibit 7Z, a cylinder "H" has been mounted on the framework of the machine and that cylinder has mounted within it a subcylinder of less diameter. The diameter of the subcylinder was 6-7/16ths inches in diameter. A Weatherford close tolerance type of scratcher was mounted on the casing "A" between spaced stop collars, as shown in Petitioner's Exhibit 7Z, in such a manner as to provide a limited amount of longitudinal movement of the scratchers as well as free rotation of the scratcher in [2642-430] the cylinder "A."

With the assembly, as shown in Petitioner's Exhibit 7Z, the motor force was put in operation applying oil under pressure. Through suitable control valves the oil was admitted to the hydraulic cylinders and the scratcher—that is, the Weatherford close tolerance scratcher was moved down into the subcylinder which is mounted within the cylinder "H." After the scratcher traversed the subcylinder for about 12 inches, the direction of travel of the casing "A" was reversed.

I was watching during this entire operation the wires. I noticed that on reverse travel of the casing "A" the wires of this Weatherford scratcher did not reverse but slid up the inside surface of the subcylinder and traveled or skidded along the inside surface of the cylinder until all of the wires left the opening at the upper end of the cylinder, without a single wire reversing.

Q.122: Now, Mr. Doble, I will hand you a further photograph which I will mark Exhibit 8E. I will

(Deposition of William A. Doble.)

ask you if you can identify this photograph and state what it is.

(The photograph referred to was marked by the Notary Public as Petitioner's [2642-43] Exhibit 8E for identification, and is made a part of this deposition.)

The Witness: Referring to Petitioner's Exhibit 8E, which is a photograph of the Weatherford close tolerance scratcher just as it appears complete withdrawn from the subcylinder, which I previously referred to and which is mounted within the large cylinder "H," it may be noted that the wires of this scratcher are angled slightly upwardly, showing that they took a deformation during the travel of the wires down into the subcylinder and up and over of the subcylinder. That will be noted, if one compares Petitioner's Exhibit 8E with Petitioner's Exhibit 7Z.

Q.123: Now, Mr. Doble, I hand you a third photograph which I have marked for identification as Exhibit 8F, and ask you if you can identify this photograph?

(The document referred to was marked by the reporter as Petitioner's Exhibit 8F for identification, and made a part of this deposition.)

The Witness: Exhibit 8F is a photograph illustrating the same testing machine and showing the Weatherford close tolerance scratcher as the lower

(Deposition of William A. Doble.)

row of wires is finally emerging from the subcylinder. Exhibit 8D shows the points of the wires sticking upwardly of the [2642-432] upper row of wires in the Weatherford close tolerance scratcher as the scratcher was being moved up and out of the subcylinder.

Q.124: (By Mr. Lyon): What does the arrow on Exhibit 8D indicate, Mr. Doble?

A. That indicates the direction of travel of the casing at that time.

Q.125: Will you mark on the exhibit just the arrow which you and I refer to, on the exhibit which is in the record? A. On 8D?

Q.126: Yes, on 8D. A. Where is 8D?

Q.127: There is 8D. Mark the word "arrow."

A. I have placed the word "arrow" with a lead line pointing to the arrow, which I have just referred to on Petitioner's Exhibit 8D.

Q.128: Mr. Doble, if the scratcher which you have shown in Exhibit 8D had reversed, would the wires be extending upwardly in the direction they are shown in Exhibit 8D?

A. They would not. You would not see them in that particular position. They would be direct downwardly in the bore of the subcylinder, which can be clearly seen in Petitioner's Exhibit 8D. [2642-433]

Q.129: Similarly looking at Exhibit 8F, in which direction was the cylinder going at that time?

A. It was going upwardly and the scratcher wires were going out of the subcylinder.

(Deposition of William A. Doble.)

Q.130: What does this photograph show with respect to the lower row of wires?

A. The lower row of wires are almost entirely—have almost entirely moved out of the subcylinder and are shown pointed upwardly as they were confined and traveled upwardly in the subcylinder during the up travel of the casing “A.”

Q.131: Would those wires be shown upwardly inclined if the scratcher had reversed during the operation?

A. No, they would not. They would be pointing downwardly instead of upwardly.

Q.132: I see, Mr. Doble, we have one further photograph which has not been introduced, which I hand you at the present time, and I will ask you if you can identify this photograph. I have marked it Petitioner’s Exhibit 8G.

(The photograph referred to was marked by the Notary Public as Petitioner’s Exhibit 8G for identification, and made a part of this deposition.) [2642-434]

The Witness: Petitioner’s Exhibit 8G is a photograph taken to show the guide and centering hole, that is, the square hole in the lower end of the casing “A” which rides over the square shaft over rod “E” so as to maintain the casing in correct alignment and absolutely prevent rotation of the casing with relation to the square shaft or the cylinder which represents the well bore.

Q.133: (By Mr. Lyon): Mr. Doble, I hand you

(Deposition of William A. Doble.)

a scratcher, and ask you if you can identify the scratcher.

A. Yes, this scratcher which you have handed to me is the scratcher which was run through the cylinder marked "F1" in the test on May 27 taken in Long Beach.

Mr. Lyon: I will ask that this scratcher be received in evidence as Petitioner's [2642-435] Exhibit 8H.

* * *

Q.134: (By Mr. Lyon): Now, Mr. Doble, I will hand you a further scratcher and ask you if you can identify this? A. Yes, I can.

Q.135: What is this scratcher?

A. The scratcher which you have just handed to me is another one of the scratchers which we ran through a cylinder on May 27th in the hydraulic testing machine which I have been testifying in regard to. This particular scratcher has an over-all diameter of $8\frac{7}{8}$ inches, that is a diameter across the free ends of the wires of $8\frac{7}{8}$ inches.

Q.136: How does this compare with the diameter, the over-all diameter of the scratcher Exhibit 8H?

A. It is an eight of an inch larger in diameter. It is $8\frac{7}{8}$ inches in diameter over the ends of the wires.

Q.137: What is Exhibit 8H?

A. 8H is $8\frac{3}{4}$.

Mr. Lyon: I will offer this scratcher in evidence as Petitioner's Exhibit 8I.

(Deposition of William A. Doble.)

(The scratcher referred to was [2642-436] marked by the Notary Public as Petitioner's Exhibit 8I, and made a part of this deposition.)

Q.138: (By Mr. Lyon): You say this Petitioner's Exhibit 8I was also run in a test on May 27th?

A. Yes, it was.

Q.139: Through a cylinder? A. Yes.

Q.140: A darkened cylinder? A. Yes, sir.

Q.141: Was a tracing made? A. Yes, sir.

Q.142: Was a photograph made of the tracing?

A. Yes, sir.

Q.143: I hand you two photographs, which I will mark as Petitioner's Exhibits 8J and 8K, and ask you if you can identify these photographs?

(The photographs referred to were marked by the Notary Public as Petitioner's Exhibits 8J and 8K, respectively, and made a part of this deposition.)

The Witness: Petitioner's Exhibits 8J and 8K are the tracings made in the cylinder "G," and it will be observed that the letter "G1" was placed on the upper left-hand flange of Petitioner's Exhibit 8J, and that the letter "G2" was positioned in the upper left-hand [2642-437] flange of Exhibit 8K. In this test Petitioner's Exhibit 8I was mounted on the machine. The cylinder "G" was bolted together so as to form a true cylinder. The inner surface was blackened, the scratcher, Exhibit 8I, was run down until the wires reached approximately or

(Deposition of William A. Doble.)

adjacent the lower end of the cylinder, and then the direction of travel of the casing "A" was reversed, and the scratcher was lifted until it left the bore of cylinder "G," and it will be observed that during the downward travel the wires scratched a straight line until they reached the lower point, at which point the reversal took place, and during which the body or collar portion of the scratcher was rotated, and following the reversal the wires traced out a new pattern on the surface, inner surface of the cylinder, and that line extends straight up and finally leaves the upper end of the cylinder.

Q.144: (By Mr. Lyon): Mr. Doble, do you know why——

A. Pardon me, I wanted to put this in: The rotation of Petitioner's Exhibit 8I as I measured it with relation to the casing "A" was for the one down and out operation almost exactly one-quarter of an inch, showing a greater rotation due to the longer length of the wires than was obtained in a corresponding single stroke made by the wall cleaning guide, [2642-438] Petitioner's Exhibit 8H during its travel down and up in a similar blackened cylinder.

Q.145: Mr. Doble, you have testified with respect to the close tolerance Weatherford scratcher as shown in Exhibits 8D, 8E and 8F, and the fact that that scratcher did not reverse. From your experience with these scratchers can you state the reason for the reversals and the reason that the Weather-

(Deposition of William A. Doble.)

ford scratcher of these exhibits that I have just pointed out, did not reverse?

* * *

The Witness: Yes, I will be glad to do so. In operating scratchers in a metal cylinder there is a limit as to the length which the wires can be made. Beyond this limit the wires, that is, if you exceed in length the critical length of the wire, the wire will engage the inner wall of the steel cylinder and will merely slide upwardly against the wall of the cylinder, whereas, if the wires are below that critical length the ends of the wires will engage the inner surface of the cylinder and will fulcrum about that point of engagement and reverse in direction and will not skid up the inside of the cylinder bore.

Q.146: (By Mr. Lyon): Now, Mr. Doble, in a cement [2642-439] cylinder or in a cylinder simulating or in an oil well will such a non-reversal occur?

A. It may or it may not. The chances are it would not, because in some oil well conditions, the well bore is of a material that is softer in nature than a steel cylinder, and there are certain irregularities which the wires of the scratchers can or could lodge against and fulcrum against, so that there would be or could be rotation in that type of operation as against a smooth cylinder.

Q.147: In a producing sand of an oil well would the wires slide upwardly or downwardly without reversing?

* * *

Deposition of William A. Doble.)

The Witness: In my opinion the wires would reverse in a producing sand, even though they would not reverse in a steel cylinder of the same diameter.

Q.148: (By Mr. Lyon): Now, Mr. Doble, you made some tests using a cement cylinder. Did you observe any failure at all of the reversal in that cement cylinder?

A. No, sir, I did not. [2642-440]

Mr. Lyon: Let us take a short recess.

(A short recess was here taken.)

Q.149: (By Mr. Lyon): From the tests which you have made, from the studies that you have made of this matter, Mr. Doble, from an engineering standpoint and from the evidence which is available, can you state whether or not in your opinion the scratchers, Figures 14, 16 and 26 of the Jones & Berdine report rotated during the tests that are reported in that report?

Mr. Scofield: That is objected to as calling for a conclusion based upon a hypothetical situation; also as improper rebuttal testimony.

The Witness: Yes, sir, I believe there is clear evidence that the scratchers in the figures you have enumerated rotate, as is exemplified in the cast cement cylinders depicted in the Jones & [2642-441] Berdine report.

* * *

DEPOSITION OF KENNETH A. WRIGHT
a witness produced on behalf of the Petitioner, having
been first duly sworn to testify the truth, the
whole truth and nothing but the truth, upon the
interrogatories, deposed and testified as follows:

Direct Examination

By Mr. Lyon:

Q.1: Will you state your name?

A. Kenneth A. Wright.

Q.2: What is your occupation, Mr. Wright?

A. I am a manufacturer of oil tools.

Q.3: How long have you been in that business?

A. Since approximately mid-year 1939.

Q.4: What type of tools?

A. Tools used in cementing and well completion,
principally.

Q.5: You are the Kenneth A. Wright who is
the patentee of U. S. Letters Patent Nos. 2374317,
and 2392352 and 2338372, are you not?

A. I don't know those numbers by memory, but
if you will put them before me, why, I will confirm
the numbers again.

Q.6: All right, here they all are.

The Witness: Mr. Reporter, would you repeat
the numbers so that I may identify them? [2644]

The Reporter: 2374317.

The Witness: That is correct for that one.

The Reporter: 2392352.

The Witness: That is correct for that one.

The Reporter: 2338372.

The Witness: That is correct for that one.

(Deposition of Kenneth A. Wright.)

have not examined the text. I am assuming that the cover page is correct.

Q.7: (By Mr. Lyon): Mr. Wright, before your experience in this scratcher patent matter, did you ever have any patent experience before?

A. I have never applied for a patent before that initial one that shows in this series just read.

Q.8: Did you ever have any dealings with patents before you applied for your first patent as shown above?

A. I had a deal with a fellow in the early '20's, and he was the applicant for a patent, and nothing came of it.

Q.9: Did you ever enter into a patent contract of any kind or character before this contract of March 15, 1944?

A. I don't understand what you mean by "patent contract."

Q.10: Well, an agreement affecting patent rights.

A. Well, there is some understanding [2644-3] between B & W and myself. You exclude those?

Q.11: Yes, I will exclude those in this.

A. Other than that just mentioned, that one is the first one.

Q.12: Did you ever have any knowledge of or acquaintance with a proceeding known as an interference proceeding before your experience with your scratcher applications and patents?

A. That is my first experience with patent interferences.

(Deposition of Kenneth A. Wright.)

Q.13: Were you ever engaged in any patent litigation before this scratcher situation, either as a party or a witness?

A. That is my first experience.

Q.14: You have heard the testimony of Mr. Barkis, have you not?

A. Most of it. I was not here every minute of his testimony.

Q.15: When was B & W formed?

A. I believe the incorporation date is June 25 or 28, approximately, 1939.

Q.16: What was the purpose of the formation of the B & W?

A. To provide for a corporation relationship between Mr. Barkis and myself to develop and manufacture and [2644-4] sell oil tools.

Q.17: At the time of the formation of B & W, did you have any particular tools or project in mind?

A. At the time the B & W was formulated and subsequently incorporated, I had in mind the idea of abrading the well wall with devices on the casing during cementation and during the landing of perforated screen.

Q.18: Had you discussed that matter with Mr. Barkis before the formation of B & W?

A. I had.

Q.19: Did that idea have anything to do with the formation of B & W?

A. It was part of the very basic arrangement

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resulting in B & W becoming incorporated and going into the initial work.

Q.20: Had you explained fully to Mr. Barkis your ideas with respect to a scratching of an oil well to remove the mud cake prior to the formation of B & W?

A. The idea of abrading the wall accompanied by circulation was fully discussed. The specific tools came progressively later.

Q.21: Are you a graduate engineer, Mr. Wright?

A. My degree reads "Department of Geology, Bachelor of Science degree."

Q.22: Of what university? [2644-5]

A. Stanford University.

Q.23: What year?

A. My diploma is dated in 1921, according to my recollection.

Q.24: Since you graduated from Stanford University to what industry have you devoted your time?

A. To the petroleum industry.

Q.25: In that capacity what have you done?

A. May I make an exception?

Q.26: Yes.

A. If the manufacturing of oil tools, selling and servicing them is part of that, that is my answer.

Q.27: Since you graduated from Stanford University what have you done in the oil industry?

A. You mean by that my employment?

Q.28: Yes, your employment.

A. My initial employment after graduation was with the Associated Oil Company as a, then called

(Deposition of Kenneth A. Wright.)

field geologist, which meant the combined duties of petroleum engineer, as we call it today, and a general association of the work with the development of the wells. The next employment, as I recollect, was with the Pan-American Petroleum Company, starting about mid-year 1923, and that employment was as a petroleum engineer, associated with the drilling and development of an oil field, [2644-6] drilling practice, and some production practice, and part of that was keeping the well records and determining the point at which total depth of the well, cementing depth of the well casing program and supervision of cementing operations, together with coring, surveying incidental to that type of work.

In or about January, 1928, I was employed by a firm, corporation named Trinidad Leaseholds, Ltd., on the Island of Trinidad, British West Indies, as drilling superintendent for the company. I worked in Trinidad in that capacity until sometime in late 1930 or thereabouts.

In the fall of 1930, after returning from Trinidad, I was associated with a company named Young Petroleum Corporation as vice-president and petroleum engineer, and that did not require my entire services, so I did some work as consultant to individuals requiring that type of engineering service.

In 1935 I was retained as a consultant for a company in Sydney and Adelaide, Australia, for geological work, and at the same time retained my

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association with Young Petroleum Corporation. My association with the Australian company terminated in or about November of 1938. It might have been October, I am not sure, and I returned to the United States, and shortly thereafter formed this association with Mr. Barkis, which has existed up until this [2644-7] date.

Q.29: Where did you first meet Mr. Barkis?

A. My first acquaintance with Mr. Barkis starts with—my acquaintance with Mr. Barkis starts shortly after I was employed by the Pan-American Petroleum Corporation. He came to work with the company shortly after my employment.

Q.30: Are you acquainted with the exploratory work done by Jones & Berdine of the Union Oil Company?

A. I am familiar with that report and the work they did.

Q.31: When did you first learn that they were doing that work or going to do that work?

A. My present recollection is that the project was already in operation when Mr. Barkis and I discovered or found out about it, and that period——

Q.32: Do you recall how you found out about it?

A. My present recollection is that Mr. Jones phoned Mr. Barkis and asked him to supply equipment for the operations which they had under observation.

(Deposition of Kenneth A. Wright.)

Q.33: I believe I interrupted your previous answer, Mr. Wright.

A. I have lost the trend of thought.

(Previous answer read.)

The Witness: I am not certain of the exact date, but my recollection is December, 1939.

Q.34: (By Mr. Lyon): Did you supply equipment in [2644-8] accordance with Mr. Jones' request? A. Yes.

Q.35: Did you take any of the equipment Mr. Jones yourself?

A. Yes, I took, according to my present memory, two devices over to the place where the operation they were conducting was taking place.

Q.36: Are you familiar with the test apparatus that was used? A. Yes, I am.

Q.37: Are you familiar with the tests that were made?

A. Assuming I understand what you mean "familiar" I know how they were carried out as to the mechanics of their operation, and what they purported to exhibit and demonstrate.

Q.38: Were you present when any of the actual testing operations were performed, Mr. Wright?

A. Well, if you would point out just what part of the operation you mean by "testing," or shall I proceed without that?

Q.39: Well, I will be glad to. I mean the actual mounting of the devices in the test apparatus and

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the operation of the apparatus itself to perform the tests, was what I meant. [2644-9]

A. Do you wish me to describe one?

Q.40: No, I want to know first: Were you present?

A. I was present when the actual cementations were made on, I believe, two tests, meaning by that the period in which the mud fluid was pumped into the casing and discharged into the annulus and to the waste line, reciprocation of the casing during cementation, and the time when the cementation actually ceased.

Q.41: Generally what type of devices were under test at the time that you were present?

A. My present recollection was one of our devices, that is, meaning by "our" there were more than one series of tests made on the same general equipment, and I do not recollect the particular device or what company might have furnished the device on the other one.

Mr. Lyon: We will adjourn at this time until 1:00 o'clock.

(A recess was here taken from 12:00 noon to 2:00 p.m.)

Q.42: (By Mr. Lyon): You are familiar, you are, with the apparatus that was used by Jones & Erdine in making these tests at Dominguez Hill. Have you any photographic illustrations of that equipment, Mr. Wright?

A. The equipment itself?

(Deposition of Kenneth A. Wright.)

Q.43: Yes. [2644-10] A. The test wells?

Q.44: The test wells.

A. The test wells, I think I have.

Q.45: I hand you two photographs and ask you if you can identify these?

A. Yes, sir, these appear to me to be photographs taken of the apparatus which Mr. Jones and Mr. Berdine designed and built to carry out the tests, and the second one is not clear as the first and I think part of it is a double exposure, but I am not an expert in photography.

Q.46: But both of these pictures are pictorial representations of the test wells that were used in this Jones and Berdine determination, are they?

A. Yes, they are.

Mr. Lyon: I will offer the two photographs in evidence as Petitioner's Exhibits 4A1 and [2644-11] 4A2.

* * *

Q.47: (By Mr. Lyon): You testified that you were present when some of the test operations were performed by Jones and Berdine. Do you know when that was?

A. My present recollection is that these tests were in December, 1939, and I believe the first part of January, 1940.

Q.48: Was there more than one test operation performed with B & W scratchers by Jones and Berdine? A. Yes, there was more than one.

Q.49: And these were all performed, were they during this period of time that you have specified

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as you recollect? A. That is correct.

Q.50: Were all the tests performed with the same scratcher?

A. No. Let me ask you the question: You mean the same identical mechanical unit or——

Q.51: I mean the same identical mechanical unit first, or units, unit or units.

A. My recollection is that I gave Jones two scratchers, and those are the two which punched the hole in the canvas bag, and then I am of the opinion that those two were reusable. I have heard Mr. Jones' testimony, and I note what he said, and I believe I supplied several more, [2644-12] but the exact number I do not know, and I have very carefully examined his photographs so as to clear up my memory, the best I can tell you.

Q.52: You are familiar, then, with the photographs Mr. Jones took of this apparatus?

A. I saw the initial report which he made and was given to the API, and obtained several copies of the entire report on the day he gave the report, and examined it thoroughly, and subsequently I obtained what is now Exhibit L in this deposition, and which has the photographs.

Q.53: We will have to break that down a little bit. You were present, then, when Mr. Jones gave his report at the API meeting, were you?

A. At the Biltmore Hotel in Los Angeles.

Q.54: When?

A. My recollection is March 18 or 19, and the

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date of the paper is whatever it reads. That is my best evidence.

Q.55: The reprints, were they handed out at the time Mr. Jones gave his report?

A. That is correct. They were on large—on tables along the wall, and this report of Mr. Jones and Mr. Berdine was a unit form, and along with other papers which were given by other authors on other subjects, and my recollection was that it was one large envelope in which [2644-13] were contained the copies of the papers given at that particular meeting.

Q.56: You have also testified that you also obtained, and I presume for the purpose of this proceeding, the precise report, Exhibit L; is that correct? A. I obtained that myself.

Q.57: From where did you obtain that?

A. From Mr. Henry A. Winter.

Q.58: Where?

A. I obtained it from him at his office in Whittier, California, when the Union Oil Company offices had been moved from Santa Fe Springs to Whittier, and he gave it to me personally.

Q.59: Is Mr. Winter still in the employ of the Union Oil Company? A. I believe he is.

Q.60: You have testified that you are familiar with the photographs which accompanied this report, and I am handing you Exhibits F, G, H, I, J and K, and ask you if these are the photographs that you refer to, or are these copies of the photographs you refer to?

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A. May I compare them to the report? F is correct, G is correct, H is correct, I is correct, J is correct, and K is correct.

Q.61: Then your answer is that these [2644-14] are the photographs that you stated you were familiar with? A. That is correct.

Q.62: Figure 14 shows a scratcher. Are you familiar with that scratcher? A. Yes, I am.

Q.63: Is that a scratcher that you furnished, or B & W furnished to Jones and Berdine?

A. This is a scratcher which was furnished by B & W to Jones and Berdine.

Q.64: Now, I hand you a photograph, Exhibit K, and I will call your attention to the fact that there are two billets. How many scratchers are there shown in that figure, in that exhibit?

A. There appear to be four; one, two, three, four.

Q.65: Do the four scratchers appear to be the same?

A. There are two different, two separate billets, and in the upper part of the photograph are clearly seen two different scratchers, that is, one on each, with the outer ends formed reasonably the same, and in the lower two there is one on each that is not near as distinct. There is a chopped-away portion, meaning a chopped-away part of the cement to indicate the location of a device within the billet. [2644-15]

Q.66: Do you have any recollection of any of these scratchers having been recovered from the cement billets?

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A. I am under the memory and believe that on set, at least, were reused.

Q.67: I hand you a photograph, Exhibit G, and I will ask you to tell me what that photograph shows?

A. This photograph shows the second general form we have used, a B & W scratcher, and is a modification of the one I have just referred to, Exhibit F, and I note in the wire and clip arrangements what I believe to be cement.

Q.68: Will you just mark what you are referring to with the word "cement" with a lead line, Mr. Wright? A. What shall I put out here?

Q.69: Just the word "cement." What does the appearance of that cement as you have marked it on the photograph Exhibit G indicate to you, Mr. Wright?

A. That it was recovered from a previous test run and cleaned up and modified and reused.

Q.70: Now, I show you a photograph, Exhibit I, and ask you if you can identify that?

A. Yes, that is a scratcher which B & W supplied to Mr. Jones and Mr. Berdine.

Q.71: Was this what you would refer to as a third [2644-16] form?

A. This is a third form used, disregarding the first form which did not ever arrive at a finalized observable test, if that is what you mean.

Q.72: Considering all forms, that is, the first form that did not result in a finalized test, and the three forms of scratchers as shown in the photo-

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graphs as you have identified them, Exhibits F, G, and I, how were the scratchers mounted?

A. All of these scratchers were mounted on the three and a half inch casing, between rings which operated as upper and lower stops, and the devices were free to slide between the stops and free to rotate on this casing at all times.

Q.73: I call your attention to the fact that there are no such stops shown in Figure 14. This in Figure 14. How do you account for that?

A. Well, I heard Mr. Jones' testimony, and I had previously asked him for an explanation, so I am aware of that, but wholly independent of that this picture, if examined closely, shows no welding of any nature whatsoever or any engagement whatsoever between the scratcher collar and the three and a half inch casing and, in fact, close inspection shows an open portion on the right-hand part of the joint where the collar and casing are adjacent to [2644-17] to each other. You can easily see it, you could push a knife blade down between there, or some object of a thickness almost as thick as the scratcher collar itself, which I know to be 14 gauge.

Q.74: Now, Mr. Wright, did you observe any of the results of any of the tests conducted by Jones and Berdine for the Union Oil Company?

A. I saw, as I remember, the billets after they were recovered from the operation, which was accomplished by dismantling the devices, that is, the test wells, from the apparatus, placing it on the ground and unbolting the simulated wall, which was

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a 7-inch steel casing, and then slitting the canvas, and the observations were made by the Union Oil Company men, principally Mr. Jones and Mr. Berdine.

Q.75: From your observation of these tests, watching them, from your observation of the billets, that resulted from them, and from your knowledge of the structures as shown in these photographs, can you state whether or not the scratcher rotated on the pipe during each of these tests? [2644-18]

* * *

The Witness: Well, observations during the cementation of——

Q.76: (By Mr. Lyon): Just answer the question, can you or can't you?

A. I can. I believe that the three sets of billets which are pictures in Exhibits K, J, and H, indicate and show that the device in each of those instances rotated on the casing between the stops during the period that the cement slurry was pumped past it.

Q.77: At what part of the reciprocation did the scratchers rotate?

A. The Scratchers, according to my analysis, rotate immediately——

* * *

The Witness: ——after the direction of reciprocation takes place, and for a very short distance of travel thereafter.

Q.78: (By Mr. Lyon): Did these scratchers rotate only during the time that the cement was being pumped in these simulated wells?

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A. The scratchers while being reciprocated, when mounted in the manner indicated between these stop rings, rotates with the reciprocation and wholly irrespective of the fluid that is passing by it.

Q.79: Were any of these scratchers [2644-19] as shown in Exhibits F, G, and I, sold to the Union Oil Company?

A. These scratchers shown in figures, Exhibits F, I, and G, were not sold to the Union Oil Company.

Q.80: Were any scratchers sold to the Union Oil Company for their use in the Jones and Berdine tests? A. None were by B & W.

Q.81: To your knowledge, did the Union Oil Company purchase scratchers from B & W about this time?

A. The Union Oil Company started buying scratchers from B & W shortly after the tests were concluded, and I don't know the exact date other than what I have seen brought into evidence here.

Q.82: Was the purchase of the scratchers by the Union Oil Company the result of any recommendation made by Jones and Berdine, to your knowledge?

A. It was my understanding or my information at that time that scratchers made by B & W were to be, were recommended to the Union Oil Company for standard practice—usage, I mean by that, and such recommendations were made.

Q.83: It is true, is it not, Mr. Wright, that the reason that you furnished these scratchers to Jones

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and Berdine for these tests was to get such recommendation, if possible; was it not? [2644-20]

* * *

Q.84: (By Mr. Lyon): To your knowledge, were you or were you not in competition with other manufacturers endeavoring to furnish equipment or methods of Jones and Berdine for accomplishing this same purpose?

A. Yes, the whole set of observations and tests which Jones and Berdine carried out were, to some degree, competitive between manufacturers to supply something that they could take and use and obtain satisfactory cementations in their field operations.

Q.85: During the time that these Jones and Berdine tests were being carried out, do you have any recollection of carrying on any other operations with the B & W scratchers?

A. Coincidental with, or simultaneously, about the same time that these tests were being carried out, Mr. Barkis and myself concluded this was a satisfactory, usable tool to use in the petroleum industry in the cementing of wells, and decided to spend the money to go into it in an extensive way, as far as our finances would permit.

Q.86: I notice that in the Jones and Berdine report these devices are called "scratcher." Did you use that term when you started to exploit these scratchers of B & W? [2644-21]

A. We used the term "scratchers" between ourselves, and very limitedly otherwise.

(Deposition of Kenneth A. Wright.)

Q.87: Why?

A. Well, the word "scratch," and I am speaking now of 1939 and 1940, is a word which oil field operators, and I mean by that the people who are responsible for getting the casing into the bore hole, was extremely objectionable, and it implied an operation which could result in casing being stuck, and a failure to get the casing to the bottom, and other remarks, but principally the device would scratch the filter cake off to a point and to a degree that would hazard the casing becoming placed at its objective point.

Q.88: So in the early operations you adopted another name for these devices; is that correct?

A. We discussed at great lengths what name we should give it, and concluded that the words "wall cleaning guide" would be the best name.

Q.89: Now, you stated that during the Jones and Berdine tests that you had another operation using these scratchers. What was that other operation? A. You mean the actual cementation?

Q.90: Where was it located?

A. A well?

Q.91: Yes. [2644-22]

A. Well, we sold to Thomas Kelly & Sons, an oil field operator of Long Beach, Rosecrans area, a set of scratchers to be used on a well that they termed McMillan Community No. 1 in the Rosecrans Field.

Q.92: Where was that well located?

A. It was in the southeast portion of the Rose-

(Deposition of Kenneth A. Wright.)

crans Oil Field, near the Redondo Beach Boulevard-Main Street intersection.

Q.93: Who sold that job to Thomas Kelly & Sons, do you recall?

A. I believe I sold the——

Q.94: Who did you sell on using the scratchers?

A. I sold Mr. Laurence Kelly and his brother Maurice Kelly.

Q.95: When, with relation to the actual use of the scratchers, did you sell them on the idea of using them?

A. The actual confirmation of sale took place on the—as I recollect it, on the morning or the previous afternoon, but I believe it was the morning of the day that the casing was started into the hole.

Q.96: Had you known either Laurence or Buck or Maurice Kelly before that time?

A. Yes, I had known the two Kelly boys for some time before.

Q.97: That is, you had known them for some time [2644-23] before you sold them on this use of scratchers?

A. Yes, I had known the Kellys for several years.

Q.98: Did the Kellys make any inquiry at the time you sold them as to how these scratchers or well cleaning guides, or whatever you called them at that time, were to be mounted on the casing?

A. Yes, sir, they asked me how they operated and what they would accomplish if they purchased

(Deposition of Kenneth A. Wright.)

them, and how it would affect their particular problem on that well.

Q.99: Were any arrangements to be made with the Kellys as to who was to supervise the installation of these scratchers?

A. Mr. Kelly asked me if they purchased would we come to the well and supervise the entire operation, and I mean by "supervise" within the limitation that sellers or vendors of equipment ordinarily extend their operations.

Q.100: Now, did you go to the Community No. 1 Well? A. At what time?

Q.101: At any time.

A. On the afternoon of December 30, 1939, I went to the well, and it is according to my recollection I took the scratchers to the well, but Mr. Barkis was [2644-24] there simultaneously, so I don't recall whether he went in his car and me in mine, but these scratchers were taken to the McMillan Community No. 1 Well on that date.

Q.102: By you?

A. According to my recollection, I took them.

Q.103: How many scratchers?

A. There were twenty-three scratchers used on that well, according to my records and recollection.

Q.104: What size were the scratchers?

A. The scratchers were for use on 6 $\frac{5}{8}$ -inch API casing.

Q.105: Were the scratchers mounted on the casing?

(Deposition of Kenneth A. Wright.)

A. The scratchers were mounted on the casing at the well rack.

Q.106: Did anybody supervise the installation of these scratchers on the casing?

A. I supervised the installation.

Q.107: Of all twenty-three scratchers?

A. Yes, that is right, every one.

Q.108: Did you inform anyone as to how the scratchers were to be mounted on the casing?

A. Yes.

Q.109: Who did you so inform?

A. The welder which Thomas Kelly & Sons had employed to do the mounting. [2644-25]

Q.110: Do you remember that welder's name?

A. I didn't remember it at that time, but subsequent incidents have made his name familiar to me.

Q.111: Was anyone else present at that time?

A. Do you mean by that the time in which the——

Q.112: Your scratchers were mounted on the casing.

A. Yes, there were other people present.

Q.113: Who?

A. My present recollection is the time when the operation started, I mean by that, the mounting of the casing—of the scratchers on the casing was in the middle or late afternoon, getting near the time of tour change, which would be at 4:00 o'clock in the p.m. Mr. Laurence Kelly and Mr. Maurice Kelly were there during at least the start of the

(Deposition of Kenneth A. Wright.)

mounting, and for a considerable time because, let me interject, they were interested in seeing what the device looked like and how they were mounted, and, in further particulars, that the location of them on the casing coincided with the location as far as they would be in the well when the casing was cemented in relation to the electric log observations, which indicated some productive sands were in the well above the point where they were to cement the 6 $\frac{5}{8}$ casing.

Q.114: Who else was present?

A. Mr. Sweetzer was there at some [2644-26] time.

Q.115: Who else?

A. And later he was there continuously, as I recollect it; the welder I have just referred to, the drilling crew which was then coming out of the hole, and the driller I was personally acquainted with, Mr. Ernest Edmonds, and I believe one man of his crew was a man I had known, and the man that came——

Q.116: Who was that man?

A. Right now I believe it was Gioia, but the report is the best evidence.

Q.117: Gioia?

A. Yes, Gioia, and when the afternoon tour came on and—at this moment I don't remember any name in that crew.

Q.118: Do you recall the incident of one of these joints of casing slipping off the rollers at that time?

(Deposition of Kenneth A. Wright.)

A. If I may correct you, slipped off the blocks which were used to prop up the scratchers from dropping down on the casing, the rig walk, and when they pulled it up with the cat line I confirmed no damage was done.

Q.119: How did you confirm it?

A. By rotating it on the casing, so that we were very sure that the thing was free.

Q.120: Did you finish your previous answer?

A. No. [2644-27]

Q.121: If you will, please. Don't let me interrupt you.

I wanted to state, and I don't know whether I have or not, all the scratchers mounted on this 6 $\frac{5}{8}$ -inch casing were under my supervision mounted between beads built up on the casing by this welder, and these rows of beads, I mean by "rows" around the casing, were approximately twelve inches apart, so that the scratcher had the amount of travel of about twelve inches, minus the width of the collar of the scratcher, and were all free to turn and to slide, and I mean "rotate" when I say "turn."

Q.122: So that the only way that these scratchers were supported on the casing at this Kelly Well was due to the fact that they were slid over the end of the casing; is that correct?

A. Well, I don't understand your question, Mr. Lyon.

Mr. Lyon: Just read it.

(Question read by the reporter.)

(Deposition of Kenneth A. Wright.)

The Witness: Well——

Q.123: (By Mr. Lyon): If it is not correct, state where it is incorrect.

A. Slid over the end of the casing is indeterminate. You have got to do something else beyond that [2644-28] or they will fall off.

Q.124: All right, what else did you have to do?

A. The rows of beads were formed on the casing by the welder above and below each scratcher approximately twelve inches apart, and in no manner whatsoever connected to the scratcher. I am speaking of the beads.

Q.125: What joint of the casing in this particular well were the scratchers mounted upon, do you recall, joint or joints?

A. According to my present recollection these scratchers were, several were put on the shoe joint, which means the first joint going in the hole, and subsequently becomes the bottom joint of the string, and then they were positioned on joints above that at places indicated by the electric log where subsequent perforation might take place in the event they wanted to produce the well from those levels, and I mean by this there were one or more oil sands above the one which was to be the initial producer.

Q.126: And how far apart were the scratchers positioned, do you recall?

A. I think, my recollection is five or six feet.

Q.127: Now, was this casing subsequently run in the hole?

(Deposition of Kenneth A. Wright.)

A. Yes, this casing was run into, this [2644-29] 6 $\frac{5}{8}$ -inch was run into this well, McMillan Community No. 1, with the scratchers on it.

Q.128: When, in the series of running the entire casing in the hole, were the joints run in the hole that carried the scratchers?

A. I don't quite understand.

Q.129: Were they run in first or last?

A. They were run in first, starting at the shoe joint, and then in numerical sequence, and by that I do not mean that the second joint had scratchers on it. It might have been joints 3, 4, or 5, or some combination of that nature.

Q.130: That is, they were sent to the bottom of the hole, then? A. That is correct.

Q.131: Do you recall the depth of the hole?

A. I have heard the testimony here, so I am familiar with the exact depth, but I knew it was roughly 7,500 feet. I mean by that, the depth at which the casing was run.

Q.132: Were you present when the pipe was run in the hole?

A. I was present from the start of the operation of running the casing until the cementation was completed. [2644-30]

Q.133: For how long a period of time was that, Mr. Wright?

A. My recollection is the afternoon tour on December 30 until about mid-tour of the afternoon tour on December 31.

Q.134: How many hours would that be?

(Deposition of Kenneth A. Wright.)

A. Which would make about twenty-four hours running.

Q.135: You mean you were continuously present there for the entire 24-hour period?

A. Well, if being absent is laying down in your car or sitting on what we call the lazy bench, I was at the rig at that time.

Q.136: Why did you stay at the rig?

A. Well, this was a very critical operation in the fortunes of B & W, and a project of my own personal invention, and I considered myself the most, the party at interest most, the most party at interest, as they call it. The success or the failure of the outcome affected me personally in a very substantial amount.

Q.137: Now, what was the form of the scratcher used, I mean that was sold to Thomas Kelly & Sons, and which you instructed the mounting of, as you have testified?

A. Well, it is a modification of this form used and pictured in Exhibit I of the Jones [2644-31] report.

Q.138: We have a number of scratchers here in this room. Is that scratcher exemplified by any scratcher here in the room?

A. There has been one offered in evidence here which——

Q.139: Will you pick out just which one that is?

A. The devices used on the 65/8-inch casing on the Kelly Well are, to my best recollection, just like Petitioner's Exhibit A.

(Deposition of Kenneth A. Wright.)

Q.140: There are also exhibits in this room. Are there any exhibits here which are like the scratcher shown in Exhibit I, Figure 26 of the Jones report? If there are, will you pick those out.

You have produced two scratchers here. What are their exhibit numbers?

A. May I interrupt? Did I correctly understand?

(Record read by the reporter.)

The Witness: These are, to my best recollection and observation, identical to Figure 26 or Exhibit I, with the limitation that the wire on one device has a smaller diameter than the one on the other, and they are known as Petitioner's Exhibit M, with the wire which is of greater diameter——

Q.141: And the other exhibit is what?

A. Petitioner's Exhibit KKK, as the wires with [2644-32] the smaller diameter.

Q.142: You have a recollection of the scratcher which was used by Jones and Berdine and shown in Exhibit I, do you? A. Yes, I do.

Q.143: Of the Exhibits M and KKK what is your recollection as to which one shows the correct wire?

A. It is my recollection that Petitioner's Exhibit M has the wire diameter that we used.

Q.144: That is the larger wire diameter?

A. The larger wire diameter.

Q.145: State whether or not you were instrumental in the forming of the scratcher which is

(Deposition of Kenneth A. Wright.)

shown in Exhibit I of the Jones and Berdine report? A. I am.

Q.146: You selected the wire, did you, at that time?

A. That is my recollection, I did.

Q.147: And it is your construction and design, the manner in which the wires are held on the collar by clips, is it?

A. That is my construction or direction, whichever is the proper word here—invention might be used, if it is a correct application of the word.

Q.148: Now, was there any instrumentality developed by you for forming these wires at the time the scratcher [2644-33] of Exhibit I was formed?

A. This bend which occurs, which I will describe as the first bend from the outer end, starting with the outer end of the wire, and approaching the body of the device, that particular bend was done out at the location where this operation took place.

Q.149: That is, at the Dominguez Hill operation?

A. Yes, those bends were put in the wire out there.

Q.150: Who put those bends in the wire out there?

A. I put some of them in and I believe Mr. Berdine put some in after the pattern was showed him.

Q.151: What do you mean by "the pattern was showed him?" Who showed it to him?

A. I did. I think he did some while I was doing the other.

(Deposition of Kenneth A. Wright.)

Q.152: You recall this precise scratcher of Exhibit I, and the placing of these particular bends in the wire; is that correct?

A. That is correct, although there was another workman there. I don't remember whether he might have bent one or two of the wires.

Q.153: How many of these scratchers did you so bend?

A. Only two, according to my recollection, were made [2644-34] in this form, Petitioner's Exhibit M.

Q.154: State whether or not, according to your recollection, Exhibit M correctly illustrates the precise manner in which the wires were bent at that time?

A. It is my belief that this device, Exhibit M, and also Petitioner's Exhibit KKK are true replicas of the device shown in Exhibit I, and that means in every detail.

Q.155: I note in Exhibits M and KKK that there are balls on the ends of the wires. What are those?

A. Which do you refer to, the Exhibit M or the——

Q.156: I said there are balls on the ends of the wires, what are they?

A. There are balls on the ends of the wires of Petitioner's Exhibit M and Petitioner's Exhibit KKK, and also there are portrayals of balls on the end of those portrayed in Figure 26, Exhibit I, and the balls on the end of the two devices just

(Deposition of Kenneth A. Wright.)

mentioned are an effort to truly reproduce the device shown on Exhibit I.

Q.157: Do you have any knowledge of the formation of those balls on the end of the wires in the scratcher of Exhibit I?

A. My recollection is that that was done after I left, but with the understanding that it would be done, [2644-35] so as to prevent the cutting of the canvas.

Q.158: Did you have any understanding at that time as to how it was to be done?

A. The welder, according to my memory, would touch it with some particular rod or brazing rod, I don't remember which, so that no damage would be done to the spring steel structure.

Q.159: These two scratchers like Exhibit M then were formed, the wires bent while you were present at the Dominguez Hill location, and in the company of Mr. Berdine? That is as I understand your testimony.

A. That is my recollection at this time.

Q.160: Were you present and did you observe any running of these scratchers in the hole, I mean the simulated well?

A. No, I didn't actually witness these running in the hole, because that expression does not fit exactly what took place, Mr. Lyon.

Q.161: All right, were you present when a test operation was conducted?

A. If I may enlarge a bit, these devices were,

(Deposition of Kenneth A. Wright.)

according to my memory, assembled on the ground in proper sequence and then hoisted into place.

Q.162: All right, how were they assembled on the ground, then? [2644-36]

A. Well, a steel shell, which is described in the Jones paper, was on the ground. The canvas bag was inserted, or the opposite might have taken place. I don't remember whether they put the shell around the canvas or shoved it down in there, and then the casing with the devices on it was pushed into the simulated well and the apparatus all assembled and then raised into position, and finally came into the position like those shown in an earlier photograph which was introduced here. That is the way some of them were done, according to my understanding, although I did not see all of them by any means.

Q.163: You saw this operation, as you have testified, performed, however? A. Yes.

Q.164: Now, let's go back to this Kelly Well. We had, I believe, got the first few joints of casing lowered into the hole with the scratchers on those joints and, as I understand it, you continued to stay at the well during the time the casing was lowered. Do you recall anything that occurred during the lowering of that casing in the well?

A. Yes, I do.

Q.165: What?

A. Some time not too long after the scratcher-mounted casing was lowered into the well to the depth [2644-37] below the surface casing the cir-

(Deposition of Kenneth A. Wright.)

ulation returns coming out of the overflow started diminishing, and as more and more casing was put in, why, it became observed that no returns at all or overflow occurred at each time a joint of casing was lowered into the well, and after more casing was—this occurring of no returns persisted, and you could not determine the fluid level between the 7-inch—correction, $6\frac{5}{8}$ casing and the annular space, or any annular space, and then the casing became slightly logy, as observed by the weight indicator, and it became increasingly logy until sometime on morning tour it was so logy that it was concluded that no more casing could be put in the well without resorting to circulation.

Q.166: Who made that determination?

A. It was decided by Mr. Kelly, but it was decided by first asking me: "Can we reciprocate and circulate with those scratchers on the casing?" and I said, "You can." So the circulation head was put in the $6\frac{5}{8}$ -inch casing and the pumps started, and the rig pumps were not able to break circulation, although the casing was very close to being stuck, that is, but movement was able to be continued, so the Kellys and Mr. Sweetzer and myself concluded the thing to do was to——

Q.167: Was Mr. Sweetzer there at the time?

A. I believe Mr. Sweetzer was—decided that the [2644-38] only thing to do was to call for a cementing truck, which it is customary to have on it pumps which are capable of pumping at a much higher pressure than are normally found at the

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well. We were able to keep the casing free until the cement truck arrived and got it connected up, and with the aid of the pumps on the cementing truck we were able to obtain circulation and the casing became increasingly freer, during which time the reciprocation was carried on, and when this operation was determined to be completed, that is, that the well was in condition that more casing should be attempted to be put in, we went ahead with adding more joints and stopping to circulate the reciprocate, and the test, more or less, for decision was the weight indicator. And so we continued that program until the ultimate depth at which the well was cemented was arrived at.

Q.168: Do you recall how many times you had to stop and recirculate?

A. No, I don't know exactly, but I have a vague idea it would be—not vague idea, I have some ideas on it.

Q.169: What are your ideas?

A. Probably five or six times.

Q.170: Was the casing ultimately lowered to the desired depth in the well? [2644-39]

A. The casing was lowered to a depth just a few feet short of where they had originally intended to cement it, and I don't remember whether that was five feet or approximately that amount of footage.

Q.171: Mr. Wright, did you at any time publish an instruction sheet with reference to the mounting of these scratchers on the casing?

(Deposition of Kenneth A. Wright.)

A. Yes, we did.

Q.172: I hand you Exhibit B and ask you if that is the instruction sheet to which you have just referred?

A. This is a copy of the instruction sheet. This particular paper, I recognize this as being a second or third run of those instruction sheets.

Q.173: When were these instruction sheets gotten out by your company, if they were?

A. I believe they were available for distribution in the latter part of January.

Q.174: Of what year?

A. Of 1940, although it might have been the first part of February.

Q.175: This instruction sheet, Exhibit D, nowhere states what the ultimate result of the mounting will be. Why? [2644-40]

* * *

The Witness: Well, in the first place, this device is used on casing, and I mean by that casing used in oil wells. The casing is round, that is, within the limits of manufacturing tolerances which have been established and known and used for many, many years prior to this instruction sheet having been printed or blueprinted. The illustrations, both left and right, as well as the text shows how the devices are to be positioned on the casing and what retains them at those particular locations on the casing. This instruction sheet says: "Build beads," 4 beads to be exact, "around the circumference of the cas-

(Deposition of Kenneth A. Wright.)

ing," and they have the beads, according to this instruction sheet, a total distance of 14 inches apart. It says build the beads to have a square shoulder. The draftsman indicates a square shoulder, and the text says that the device stands still while one foot of travel of the casing takes place, and that means while the casing and guide are being run into the well, because it refers to drillers, who would be the people who would run the casing in the ground, so the device is indicated to be a round collar [2644-41] device. The casing in the industry has a tolerance for diameters of three-quarters of one per cent for most all sizes, and that is on a plus or minus basis, meaning that if a casing were to be ten inches, for example, the maximum diameter could be 1/10th of an inch above, and the normal would be 10 inches, and the minimum diameter would be 1/10th of an inch below 10 inches. I am using an illustration which, in that case, would be a tolerance between the largest diameter and the smallest diameter of 2/10ths of an inch, or almost a quarter of an inch, so that actually between those beads positioned 14 inches apart that diameter could be, if the casing were 10 inches in the illustration I am using, a difference of diameter outside of 2/10ths of an inch. I do not wish to infer that 10-inch casing is used in the industry because I don't know its normal— $10\frac{3}{4}$ or $9\frac{5}{8}$, in that range of sizes—so there is the device, round, mounted on a casing that is round, that will slide up and down and free in all other respects of the casing, and then

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if we combine all that with the word "reverses" up here, and the exact points when the wires engage the wall of the hole in a different direction after each reversal, or coincidental with each reversal, the rotation of the device and the evidence that is meant and shown to be rotatably mounted and does rotate, is all there to people who wish to examine it for what it says. [2644-42]

* * *

Q.176: (By Mr. Lyon): To whom were the instruction sheets like Petitioner's B distributed, Mr. Wright?

A. Those instruction sheets were given out to the welders and engineers at the time a delivery of equipment was made to a well or warehouse.

Q.177: Who got up this instruction sheet, Exhibit B? A. Mr. Barkis, I believe.

Q.178: When? A. Early in January, 1940.

Q.179: How does this illustration on this instruction sheet compare with the manner of mounting the scratchers on a casing at the Kelly Well?

A. This example shown on the lower right-hand portion of Petitioner's Exhibit B is identical with the manner in which the scratchers were mounted on the Kelly Well.

Q.180: Was this Exhibit B the first [2644-43] piece of literature gotten out by your corporation?

A. That is according to my present recollection.

Q.181: What was the next piece of literature gotten out by your corporation?

(Deposition of Kenneth A. Wright.)

A. Bulletin No. 101 was the next literature.

Q.182: That is Exhibit A?

A. This is the next piece of advertising or literature put out by B & W.

Q.183: Do you have any independent recollection as to when the Bulletin No. 101 was circulated by B & W?

A. Bulletin No. 101 was circulated in the early part of March, 1940.

Q.184: You stated that you were present at the API meeting on March 19, 1940, at which Mr. Jones delivered his paper. When, with respect to that, was Bulletin No. 101 circulated?

A. Just a few days prior to the address of Mr. Jones on that date.

Q.185: How many of them were sent out at that time, do you recall?

A. No, I don't remember exactly how many.

Q.186: Were there 5, 10, a hundred, 200, or what?

A. My present recollection is that there would have been—that there was 250.

Q.187: To whom were they sent? [2644-44]

A. To the oil field operators, that is, I mean by that the employees of oil-producing companies here in California.

Q.188: What type of employees?

A. Such as engineers, drilling superintendents, foremen, and superintendents, to people which are directly associated with the drilling of the well.

(Deposition of Kenneth A. Wright.)

Q.189: (By Mr. Lyon): Do you recall any incident that occurred at the API meeting at the Biltmore Hotel on March 19, 1940, which would enable you to establish any one person who received a copy of this Bulletin 101?

Mr. Scofield: We will stipulate that A. H. Bell did.

The Witness: I was going to——

Mr. Lyon: I will accept the stipulation.

Q.190: After Bulletin 101 was published and distributed, what was the next piece of literature or advertising material published by your corporation?

A. The next advertising literature sent out by B & W was a blue on white publication which was presented in evidence here this morning, and I will read the title if you—— [2644-45]

Q.191: Exhibit what?

A. Petitioner's Exhibit WWW.

Q.192: After that what was the next piece of literature published by B & W?

A. Bulletin 102 was the next bulletin published.

Q.193: And that is exhibit what?

A. Applicant's Exhibit 7. At this time I am disregarding any magazine advertising which might have appeared, and I do not know of any at that time, but I am talking about bulletins like this when I answer your question.

Q.194: After Bulletin 102, Applicant's Exhibit 7, what was the next advertising material published by B & W, other than possibly magazine advertisements? Was it the B & W Bulletin 104?

(Deposition of Kenneth A. Wright.)

A. Bulletin 104 was the next bulletin published.

Mr. Lyon: Bulletin 104 is Applicant's Exhibit 8.

The Witness: What is the question?

Mr. Lyon: There isn't any question.

Q.195: I hand you, Mr. Wright, Petitioner's Exhibit YYY, and I will ask you if you can relate what you know about the exhibit and to whom it was presented, when, and under what circumstances?

A. This device, Petitioner's Exhibit YYY, is one of some scratchers that I had manufactured according [2644-46] to my instructions about June, 1947, and the manufacture of this device, and I mean by that this particular identical type of device, was brought about by a conference between four individuals of Gulf Research & Development Association and myself and Mr. Barkis.

Q.196: Who were those four individuals?

A. Dr. Wescott, Mr. Vollmer, Mr. A. J. Teplitz, and Mr. Kennedy, Dr. Kennedy, I believe. The conference——

Q.197: Where did this conference take place?

A. The conference took place in one of the buildings of the Research Department of the Gulf Research & Development Corporation at Harmarville, Pennsylvania.

Q.198: You have named who was present?

A. Yes.

Q.199: When?

A. My recollection is that this conference took place in mid-June, 1947.

Q.200: Will you state as nearly as you can the

(Deposition of Kenneth A. Wright.)

conversation that was had at that time and place?

A. Well——

Q.201: Are you unable to give the precise conversation?

A. I am not able to give the precise conversation but my recollection of the substance of it was that the Gulf Company preferred a device with a coil spring [2644-47] base—strike “base”—with a coil spring wire, and were interested in procuring more than one source as a supply, although they stated they were not the purchaser or related to the purchasing department, and we stated—I stated to the Gulf Research men present that as of that time we were of the opinion that we could make a device of that nature because of certain incidents which had taken place prior. I mean by that their present supplier had stopped paying royalties and had been placed on notice of infringement, and we were legally permitted to make a device of that nature.

* * *

Q.202: (By Mr. Lyon): Had you been advised by anyone with respect to the statements which you made in your preceding answer, Mr. Wright?

A. I had been advised.

Q.203: By whom?

A. By Mr. William Maxwell, a patent solicitor.

Mr. Lyon: Will you read the answer, Mac, before we get any further along, that he objected to?

(Answer read as requested.)

(Deposition of Kenneth A. Wright.)

Q.204: (By Mr. Lyon): State whether or not it was stated at that time that the Gulf wanted a coil spring scratcher?

A. I believe I have just stated that in [2644-48] my answer, Mr. Lyon, that the Gulf Oil Company at that time desired a coil spring type scratcher.

Q.205: As a result of that conference did you agree to submit to the Gulf a coil spring scratcher?

A. It is my recollection that I stated we would submit a scratcher to them.

Q.206: Did you submit a coil spring scratcher to them in accordance with that agreement?

Mr. Scofield: We will stipulate to that.

The Witness: Upon my return to Los Angeles from this conference in Pittsburgh, at Harmarville, I had constructed two, my recollection is 5½ inch scratchers, and sent them to the Gulf Research & Developing Corporation, to either Mr. Wescott, to Dr. Wescott or Vollmer, I do not recall which.

Q.207: When?

A. I believe the letter is dated June 30, 1947.

Mr. Scofield: We will stipulate that.

Q.208: (By Mr. Lyon): Did you receive any response to the submission of this coil spring scratcher to the Gulf Company?

Mr. Scofield: Again it can be stipulated he got an answer, and if the letter is furnished I will stipulate to the letter.

The Witness: I do not remember the [2644-49] question.

(Question read by the reporter.)

(Deposition of Kenneth A. Wright.)

The Witness: I received a letter recognizing—strike “recognizing”—I received a letter which stated that the devices had been received.

Q.209: (By Mr. Lyon): Did you ever receive any other communication from the Gulf Company, any other communication of any kind from the Gulf Company, with respect to these coil type scratchers?

A. I do not recollect any other correspondence originating with them, except in response to a letter by me.

Q.210: Did you at any time communicate with the Gulf Company by letter with reference to these particular scratchers that you forwarded to them, as you state, with your letter of June 30, 1947?

A. Yes, I wrote to them again.

Q.211: When?

A. My present recollection is late in 1948, and I believe it is October or November.

Mr. Scofield: We will stipulate that the scratchers were returned.

Q.212: (By Mr. Lyon): What was the purpose of that letter?

A. The purpose of the letter was to determine if anything had ever been done with the scratchers in the way of testing, or what had become of them, were they still in their possession. [2644-50]

Q.213: In response to that letter did you receive the scratchers back?

A. I did receive the two scratchers back.

Q.214: Did you receive any other communication?

(Deposition of Kenneth A. Wright.)

A. I don't recollect at this time a letter.

Q.215: Did you or B & W ever sell a scratcher of this coil type like Exhibit YYY?

A. Not a single one was ever sold of this identical design which is standing, setting before me, and I wish to make a comment that I am not in any manner referring to our model known as a Nu-coil scratcher.

Q.216: This scratcher differentiates from the Nu-coil scratcher in one of many respects, the one being, for the purpose of identification in this case, the wires are mounted on studs on the inside of the collar; is that correct?

Mr. Scofield: Who is testifying?

Q.217: (By Mr. Lyon): Is that correct?

A. That is correct.

Mr. Scofield: I object to the statement of counsel.

Q.218: (By Mr. Lyon): And that is not true of this Nu-coil scratcher? A. That is correct.

Q.219: So that I would be correct in referring to this coil scratcher as a coil spring with an inside stud mounting; is that correct? [2644-51]

A. That is correct, "this" being Petitioner's Exhibit YYY.

Q.220: Did you at any time before these scratchers like Exhibit YYY were returned to you have any conversation with any party in the Gulf Company with respect to the scratchers which you forwarded to them, as you have stated, with your letter of June 30, 1947?

(Deposition of Kenneth A. Wright.)

A. Will you please read that question slowly?

(Question read by the reporter.)

The Witness: I did.

Q.221: (By Mr. Lyon): Where?

A. In Pittsburgh, Pennsylvania.

Q.222: Who was present?

A. Mr. A. M. Houghton, who I believe was patent counsel, Mister——

Q.223: Patent counsel for the Gulf Company?

A. For the Gulf Companies; Mr. Leslie Vollmer and Dr. Wescott, and with me was an attorney named J. Harold Decker.

Q.224: Where did this meeting take place?

A. In the Gulf Oil Company law library in the Gulf Building, Pittsburgh, Texas—Pittsburgh, Pennsylvania.

Q.225: When?

A. My recollection of the date of this conference is it took place on September 8th and 9th [2644-52] of 1947.

Q.226: What was said, giving me the substance of the conversation had by all parties as near as possible, unless you can state the precise conversation.

A. I cannot state the precise conversation, but according to my present recollection the substance of it was we wished to obtain some of the Gulf business, and wanted them to make purchases of our device called the wall-cleaning guide, and we

(Deposition of Kenneth A. Wright.)

wished to have a conference with them about the status of relationships, if any, with J. E. Hall, from whom they were then purchasing scratchers, and related things of that nature. During the first day's conference I asked them if they were interested in purchasing the type of scratcher which I had forwarded to them in June of 1947, and I stated, or Mr. Decker stated, I don't recall, that we were of the opinion we could make that device legally, and would make and supply them if they would give us any orders.

Q.227: And what was said?

A. Well, Mr. Houghton asked for some statement, some information about the contract and the applications that Hall might be the possessor of, and I stated that we were of the opinion the pending applications were invalid, by reason of devices he had had on sale and in public use for two or three or more years prior to his making that application, and that he had abandoned the [2644-53] applications that were in the contract without notice to B & W, and ceased paying royalties, and that the combination of all or a part of this permitted us to offer them that device. Mr. Houghton stated that—again that—strike “again.” Mr. Houghton stated that the Gulf Company was always interested in having more than one supplier, and also interested in establishing that the suppliers could meet the fluctuating demand of the companies, and further asked me at what price we would supply the devices.

(Telephone rings. Discussion off the record.)

(Deposition of Kenneth A. Wright.)

Q.228: Did you finish your answer?

A. I had not, if you mean by your question to indicate all that happened in the two days.

Q.229: No, I mean on that day, I mean the complete conversation of that day. I will get to the next day later.

A. That is substantially all that I can remember at this time.

Q.230: Was there any indication given to you at that time and place or to you and Mr. Decker as to whether or not the Gulf Company would or would not purchase scratchers from B & W?

A. It was my understanding when the conference closed on that day that the Gulf Companies were interested [2644-54] in purchasing devices similar to the two which had been forwarded, and again approximately, according to my understanding, they were going to do it.

Q.231: Now, Mr. Wright, have you testified—

A. Correction, that he would make recommendations that the purchasing department could do so.

Q.232: Now, it is my understanding that you have related the conversation in substance that was had on this first day. Have you stated what you said at that conversation or what Mr. Decker said or what anybody else said, and I mean by that did you relate any of this conversation as being said by any particular party?

A. I gave a condensed statement of what my recollections were of what was said at the time by the various parties.

(Deposition of Kenneth A. Wright.)

Q.233: Were these statements with respect to the legal position, your legal position, stated by you or by Mr. Decker?

A. Mr. Decker was the person who made all the statements regarding the legal positions.

Q.234: I presume then if you were satisfied, and I believe you stated that you were, they said that they were going to recommend that they purchase these scratchers from you that this particular conference then broke up; is that correct? [2644-55]

A. That is correct.

Q.236: Was there any understanding that you would have a further meeting after that conference broke up on that day?

A. We arranged to have a further conference on the day following.

Q.237: On the day following did you have a further conference? A. Yes, we did.

Q.238: Who was present at this further conference?

A. It is my recollection that Dr. Wescott left either the afternoon before or early the next morning, I cannot recollect.

Q.239: All right, who was present?

A. So the parties present on the day following were Mr. Houghton, Mr. Vollmer, Mr. Decker, and myself.

Q.240: Where did this conference take place?

A. In the law library of the—in the same room as we had had the conference the day before.

(Deposition of Kenneth A. Wright.)

Q.241: What was the date of this second conference?

A. My recollection is September 9, 1947.

Q.242: All right. What was said at this conference, giving as nearly as you can the precise conversation had by everyone present, and if not, give me the substance, where you cannot do that give me the substance of the [2644-56] conversation.

A. I cannot give the precise statements of any of the parties, but my recollection of the substance of it is that on this Tuesday morning, September 9, 1947, Mr. Houghton asked Mr. Decker several questions about the contract with Hall and related matter, and this took thirty minutes or more, and might have been as much as one hour, and then Mr. Houghton stated that he had contacted Mr. Thomas E. Scofield, the attorney for Hall, between the close of the conference the day before and at the present moment, and that he had told Mr. Scofield we were there, that is, B & W were there, in the form of Wright and Decker, and was offering to supply them with a coil spring scratcher, and that Mr. Decker had stated that——

Q.243: Mister who had stated?

A. Mr. Decker had stated that B & W had a right to make that scratcher and offer it to Gulf, and the reason, some of the reasons which Mr. Decker had stated were the invalidity of the Hall applications then pending, or at least understood to be pending, and for various other reasons which he gave, and Mr. Houghton stated that Mr. Scofield had

(Deposition of Kenneth A. Wright.)

told him that he was going to obtain claims in the second application, or the one then pending, which were broad enough to read on the first application, and if they—and therefore, they had the exclusive right [2644-57] to make that device, and Mr. Houghton stated because of the statements of Mr. Scofield he was going to change his opinion from what he had stated the day before, and was not interested in purchasing any of those devices from us.

Q.244: State whether or not Mr. Houghton at that time stated to you that he described the scratcher which you were offering to them to Mr. Scofield in his contact with him that was had between these two conferences.

A. Well, all of the statements regarding the scratcher that was being discussed were the two which were then in the possession of Gulf Research & Development Corporation, and were continually described as the coil spring scratchers similar to Hall's.

Q.245: Now, did Mr. Houghton tell you at that time how he contacted Mr. Scofield?

A. He said he had telephoned him.

Q.246: Did Mr. Houghton state at that conference that he had told Mr. Scofield he would not recommend that Gulf purchase these scratchers from you?

A. Repeat that question.

(Question read by reporter.)

(Deposition of Kenneth A. Wright.)

The Witness: I do not recollect Mr. Houghton making that statement.

Q.247: (By Mr. Lyon): Now, were any other conversations had other than you have stated at any time with respect to [2644-58] the Gulf purchasing scratchers like Exhibit YYY?

A. Mr. Houghton stated to Mr. Decker that he had not now—he refused or rejected any idea of making any recommendations about it, strike that. Mr. Houghton said that in view of the liability which Gulf might incur he was not going to permit them to purchase at that time any scratchers like the two which we had submitted, but he said to Mr. Decker, “If you can convince me that the applications of Mr. Hall are defective in the manner you assert or state, why, I will be interested in carrying on the investigation with you.”

Q.248: Did Mr. Houghton at any time ever change his expressed opinion to you?

A. Regarding what?

Q.249: Regarding the recommendation that Gulf purchase scratchers like Exhibit YYY from B & W?

A. As far as I know, that closed the incident, as far as their purchasing a device identical to Petitioner’s Exhibit YYY.

Q.250: Did B & W any time after that attempt to manufacture or manufacture any other scratchers like Exhibit YYY?

A. As far as—read that question.

(Question read by the reporter.)

(Deposition of Kenneth A. Wright.)

The Witness: B & W then—no, we did [2644-59] not.

Q.251: (By Mr. Lyon): All right, did B & W at any time after that offer any scratchers like Exhibit YYY for sale to anyone?

A. Not according to my present recollection.

Q.252: Were scratchers like Exhibit YYY offered to the Gulf Company at any time after this conference in September of 1947?

A. Not to my knowledge.

Q.253: Were scratchers like Exhibit YYY on sale or offered for sale on August 15, 1948?

A. Not according to my knowledge.

Q.254: What scratchers were B & W offering to the trade on August 15, 1948?

A. The wall-cleaning guide and the scratcher which we called the Multi-Flex scratcher.

Q.255: When did you first offer for sale that Multi-Flex scratcher?

A. My present recollection is September or October, 1947.

Q.256: To whom did you first offer it?

A. Well, I don't have—six of these Multi-Flex scratchers were sent to Gulf Research about October 10, I believe, 1947. There is a letter in evidence, I believe, somewhere, relating to that.

Q.257: Was that the first offering that you can now [2644-60] recall?

A. No, I believe there was one a little bit earlier, but I cannot recollect that at this moment.

Q.258: Did you have any conversation with any

(Deposition of Kenneth A. Wright.)

other people in the Gulf with respect to the Multi-Flex scratcher?

A. At the conference Mr. Barkis and myself had with Gulf in July—pardon me, in June of 1947, we showed them samples of the Multi-Flex finger.

Q.259: And by “the Multi-Flex finger” you mean a finger like the finger which I hand to you?

A. That is correct.

Q.260: Is that a Multi-Flex finger that I handed you?

A. That is what we call a Multi-Flex finger.

Mr. Lyon: I will offer the Multi-Flex finger in evidence as Petitioner’s Exhibit 4B.

* * *

Q.261 (By Mr. Lyon): What was stated at this conference attended by yourself and Mr. Barkis with reference to the Multi-Flex scratcher? [2644-61]

Mr. Scofield: This is the conference now in June, 1947?

Mr. Lyon: That is right.

The Witness: The Gulf Oil Company, correction, the Gulf Research & Developing Company men present at that conference were interested in this device, and indicated they would like to make some tests with it.

Q.262 (By Mr. Lyon): Then as I understand it, your next move was to send them six of these devices about October 10th of 1947, as far as Gulf is concerned?

A. I do not recollect that me made a positive

(Deposition of Kenneth A. Wright.)

statement when we would send them, but I think—then we sent them in October.

Q.263: Did you hear any further from these devices you sent to them in October from the Gulf?

A. The substance of what followed was they made an arrangement for testing these devices other than in the laboratory, and within a short time thereafter enough of them were purchased to make tests on a field—on a well where casing was cemented, and used these devices.

Q.264: Did you learn at any time that the fact that you had submitted these Multi-Flex scratchers to the Gulf Company was transmitted to Mr. Hall, Sr.?

A. Repeat the question.

(Question read by the reporter.)

A. I did. [2644-62]

Q.265: Did you learn whether or not Mr. Hall protested the Gulf's testing or use of the Multi-Flex scratcher?

Mr. Scofield: We will stipulate that.

Mr. Lyon: Will you stipulate that that was on or about December of 1947?

Mr. Scofield: I won't say the date, but it was whenever we heard about it. We will stipulate we protested.

Mr. Lyon: Do you recall the letter? Can we stipulate you protested about December 12, 1947?

Mr. Scofield: I don't recall what date it occurred. I said we will stipulate we protested imme-

(Deposition of Kenneth A. Wright.)

diately we heard about it, if there is a letter in here that will fix the date.

Mr. Lyon: Will you stipulate you heard about it shortly after the Multi-Flexes were sent to the Gulf Company?

Mr. Scofield: Hall tells me he did, so we will stipulate to it. I didn't know about it, I don't think, but we are ready to stipulate it.

Mr. Lyon: Well, I would like to offer at this time in connection with that stipulation a letter of Dr. Foote to Mr. Houghton of December, 1947—

The Witness: 5th is my recollection.

Mr. Lyon: —copy of which I do not have immediately [2644-63] available, and I think I will call a recess at this time until tomorrow morning at 10:00 o'clock, and I will present that letter at that time. [2644-64]

* * *

Q.266: Mr. Wright, when you started in the development of your scratcher business did you contact a patent attorney? A. I did.

Q.267: Who was that patent attorney?

A. James Abbett, of Los Angeles, California.

Q.268: Where was he located?

A. In the Roosevelt Building on Seventh Street in Los Angeles.

Q.269: When did you first contact Mr. Abbett?

A. My recollection is April or May of 1939.

Q.270: Was that before you had made [2644-66] arrangements with Mr. Barkis for the formulation of B & W?

(Deposition of Kenneth A. Wright.)

A. Well, it was simultaneously with the earlier, earliest of the discussions.

Q.271: Did Mr. Barkis accompany you on the first time you visited Mr. Abbett?

A. No, he did not.

Q.272: You were aware, or did you learn that James Abbett was a patent attorney, and not a patent lawyer?

A. I don't think I knew the difference at that time.

Q.273: Did you learn that later?

A. I did.

Q.274: Did you have a conversation with Mr. Abbett in his office either in April or May of 1939 and, if so, what was the substance of that conversation?

A. I disclosed to him what I thought to be an invention relating to putting abrading devices on casing and abrading the well wall of the hole during circulation with various types of fluids.

Mr. Lyon: May the record show, and may it be stipulated, Mr. Scofield, that Mr. James M. Abbett, the patent attorney, is now dead? He is.

Mr. Scofield: I don't know anything about it, but if you say he is, why, I will accept it.

Mr. Lyon: All right, continue your conversation, I mean [2644-67] your relation of what happened, Mr. Wright.

A. Mr. Abbett said he would be—accept the employment, or whatever the proper term might be, to procure a patent involving those disclosures, and

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that this would be, in his opinion, a method patent, and that the abrading devices would undoubtedly take more than one form, and I had already stated that to him, so there would be no doubt about it. So he advised the thing to do would be to prepare the thing in very broad coverage approach, and provide illustrations which were schematic and not specific, except in the barest of essential details.

Q.275: As a result of that first conference that you had with Mr. Abbett did he prepare at any time an application for a patent for you?

A. He did.

Q.276: Was that application filed in the Patent Office? A. It was.

Q.277: Which of the applications was that, Mr. Wright?

A. That becomes the first one of this series, I don't remember the number.

Q.278: I put before you what I believe to be the first one of this series, and which is found in the Wright Patent No. 2338372, and will ask you if that is the application [2644-68] you just had reference to? A. The number is 2338372.

Q.279: The application for that patent was not filed in the Patent Office, as shown by the record of the patent, until August 19th of 1939. Can you account for the delay in the filing of that application from April or May until August, Mr. Wright?

A. Nothing other than that was the normal manner in which he prepared things which were requested of him.

(Deposition of Kenneth A. Wright.)

Q.280: After this conference in April or May did you have any further conference with Mr. Abbett before the application was filed in the Patent Office on August 19, 1939?

A. Yes, I read the application before it was sent on to the Patent Office, and asked him questions.

Q.281: When was this?

A. This would be, in my estimation, late July and after reading it made suggestions and we requested advice from him as to what the wording should be of the patent application, and accepted his advice, and with a very few correction it was——

Q.282: Were the suggestions you made embodied in the application that you signed, and I presume you signed it at that time, Mr. Wright?

A. I signed it after the draft was [2644-69] corrected with these few changes, as I recall it.

Q.283: Were the suggestions that you made embodied in the application before you signed it?

A. Very few, if any. He said he wanted to provide a very broad coverage and did not want to put in a lot of limiting requirements.

Q.284: What were the suggestions that you made?

A. Well, the definition of "fluid."

* * *

The Witness: The principal one was the definition of the meaning of the word "fluid," and he

(Deposition of Kenneth A. Wright.)

said in his opinion that was the proper word to apply.

Q.285: (By Mr. Lyon): What suggestion did you have with reference to the word "fluid"?

A. Well, I wanted to be sure that "fluid" included all things which could ever be contested as a fluid, including the word "cement," which he recommended [2644-70] be left out.

Q.286: And the word "cement" was left out of the application on his recommendation?

A. That is right.

Q.287: Were there any other suggestions that you made?

A. The question was brought up again about these schematic illustrations, and he assured me that was the correct and most—the correct way to present the application to the Patent Office, because it was a method.

Q.288: What question did you have about the schematic showing? Did you have any suggestion as to any specific showing to be made at that time?

A. I think, my recollection is I told him that we had or I had a progress towards a specific device, and he said that that should be taken care of by subsequent application.

Q.289: Did you have that specific device there at that time of this conference? A. No.

* * *

The Witness: No, I did not.

(Deposition of Kenneth A. Wright.)

Q.290: (By Mr. Lyon): In your use of the word "cement" what did you mean by the word "cement"?

A. I mean a cement slurry which is, according [2644-71] to my definition, a viscous fluid, first a fluid and then subsequently viscous.

Q.291: After the application for the Patent No. 2338372 was filed did you have further conferences with Mr. Abbett?

A. I do not remember the date of the first response from the Patent Office on the one we have just mentioned, but in 1940, somewhere about September is my present recollection, I conferred with him again about the obtaining of a patent on a specific device to go with the method that had been applied for.

Q.292: That was, in your recollection, about September, 1940?

A. That is within a month of my present—what I am thinking of at this moment.

Q.293: Had you taken up the specific device with Mr. Abbett before that time? When was the first time you took it up with Mr. Abbett? [2644-72]

* * *

Q.294: (By Mr. Lyon): Proceed with your statement, Mr. Wright.

The Witness: Will you please repeat the question?

(Question read by the reporter.)

The Witness: My present recollection is about

(Deposition of Kenneth A. Wright.)

September, 1940, and that is the first time that I interviewed Mr. Abbett about the specific device.

* * *

Q.295: What did you take up with Mr. Abbett at that time?

A. I told him we had developed a device which—I, I mean, had developed a satisfactory commercial device, and wished him to obtain the type of patent applicable to that apparatus, and showed him a catalog and a device, [2644-73] and told him to prepare the application.

Q.296: You actually had the device there?

A. Yes, I gave him a device and a catalog.

Q.297: A device like what?

A. Well, very similar to that one illustrated in page 2 of this Bulletin 101. If you will permit me to have Bulletin 101 I will——

Q.298: All right.

A. The device which I gave Mr. Maxwell—strike “Maxwell”—Mr. Abbett at this time was very similar to that pictured in the cut on page 2 of Bulletin 101, which is Exhibit A, and the catalog was identical to Bulletin 101, Petitioner’s Exhibit E.

Q.299: With respect to the devices here in evidence what one of the devices, if any, is illustrative of the precise device which you gave or presented to Mr. Abbett at that time?

A. There is one here, which I believe is the one which Mr. Scofield presented.

(Deposition of Kenneth A. Wright.)

Q.300: Which one is it?

A. According to my present recollection, it was similar to Applicant's Exhibit 2 for identification.

Q.301: Do I understand you correctly to state that you also gave him some printed matter at that same time?

A. I stated I gave him a Bulletin 101. [2644-74]

Q.302: Did you give him anything else?

A. Not according to what I remember at this time.

Q.303: Did you refer him to the API paper given by Jones?

A. I do not recollect at this particular moment.

Q.304: You have no recollection one way or the other on that; is that correct?

A. No, I do not.

Q.305: Did you describe fully the structure of your scratcher as illustrated by the device like Applicant's Exhibit 2, as shown in your Bulletin 101 to Mr. Abbett at that time? A. I did.

Q.306: Were you alone at Mr. Abbett's place of business at that time? A. I was.

Q.307: Mr. Barkis was not with you?

A. No, he was not.

Q.308: Did you tell Mr. Abbett in that explanation how these scratchers were mounted on the casing? A. I did.

Q.309: Did you use anything to illustrate that explanation?

A. I used the Bulletin 101 was illustration

(Deposition of Kenneth A. Wright.)

for [2644-75] the manner in which they were applied to the casing.

Q.310: Just repeat what you told Mr. Abbett at that time with respect to the mounting of the scratchers on the casing?

A. I told Mr. Abbett that we had—strike “we”—I had concluded right from the start that these devices had to be free on the casing both slidably and rotatably, so that these small diameter wire ends could move or hunt a new position at each time the direction of the scratcher was changed, so that the entire circumference of the wall of the well at that point would be cleaned of the mud and filter cake.

Q.311: Did you make any other explanation to Mr. Abbett of the method by which the scratcher operated in the removal of the mud?

A. Yes, I told him the wire diameter had proved to be effective as a scratching device, and that it provided sufficient strength to move, rotate the collar on the casing between these two stops, and that the distance of the stops apart was related to the actual phenomena of the driller having to raise and lower the casing by this small amount when adding joint by joint the number required to make up the full string of casing.

Q.312: Mr. Wright, I presume that subsequent to this conference with Mr. Abbett an application draft [2644-76] was finally handed to you; is that correct?

A. That is correct.

Q.313: When?

(Deposition of Kenneth A. Wright.)

A. I would estimate late November, 1940.

Q.314: How come that it took so long? Do you have a knowledge of what was the cause of the delay?

A. Well, Mr. Abbett was a one-man office and accepted employment as an expert, if that is the correct word, for attorneys, and spent quite a bit of his time in that work, and, in addition he had his boy, as I remember it, do his drafting in the evenings. So, other than that, that is the way Mr. Abbett conducted his patent business.

Q.315: When this application was finally presented to you, how did it compare with the application that was subsequently filed, and I presume it was, in the Patent Office?

A. The form in which he presented—

* * *

Q.316: (By Mr. Lyon): Do you have that draft, Mr. Wright? A. No, I do not.

Q.317: Do you know where it is?

A. No, I do not. [2644-77]

* * *

Q.318: (By Mr. Lyon): Have you made an effort to obtain the files from Mr. Abbett's office?

A. I went there once about two or three years ago, I don't remember, and his files were very bare, and he was, I might say, barely alive with a heart case.

Mr. Scofield: What?

The Witness: Barely alive. The heart case was

(Deposition of Kenneth A. Wright.)

so severe he was barely alive, so I could not and was not able to obtain anything.

Q.319: (By Mr. Lyon): I asked you whether the application was filed in the Patent Office, and I presume that eventually was the application which resulted in the grant of your Patent 2374317; is that correct?

A. The application which was prepared by Mr. Abbett at that time was number—is now Patent No. 2374317.

Q.320: How did that application as it was prepared and presented to you for signature compare with the application which was filed?

* * *

The Witness: The specifications and drawings which he had prepared had left out——

Q.321: (By Mr. Lyon): They had left out, but how did they compare with what is here?

A. Which he prepared and presented were almost identical to that found in this application to Patent [2644-78] 2374317.

Q.322: That is, there was no substantial change made in the application as he prepared it and that filed in the United States Patent Office; is that correct? A. That is correct.

Q.323: When this application was presented to you, state whether or not you had any objection or made any suggestions for the change or alteration of the application to Mr. Abbett?

A. I told Mr. Abbett that there was no reference to this method of mounting and this device being

(Deposition of Kenneth A. Wright.)

free to rotate on the casing, as represented by the cut on page 2 of Bulletin 101.

Q.324: What did Mr. Abbett say to that?

A. He said he didn't think that was patentable material, and recommended that it be left out as being immaterial.

Q.325: I point out to you the specification in your patent states on page 2, column 2, lines 29 to 32, the following:

"It will be seen that each unit comprises an inner sleeve 14 secured on the casing 11, and around the circumference of which are mounted rings 15."

A. May I read that? Where did you read from?

Q.326: Line 29. [2644-79]

A. Yes, I remember that wording being present at the time, I remember that wording.

Q.327: Did you have any discussion with reference to that wording with Mr. Abbett at that time? A. Yes, I did.

Q.328: What discussion did you have?

A. He said that the illustration as shown on Figure 2 with these lugs was a method of securing the device to the casing, and covered that idea as far as patentability would be permitted, and that was the termination of the investigation as to what the word "secured" might mean.

Q.329: Did you discuss with Mr. Abbett at that time any other form of scratcher than that shown specifically in the drawing of this application?

A. I am certain I told him about the Jones-Union Oil Company project, and showed him the

(Deposition of Kenneth A. Wright.)

paper, a copy of the paper of the Jones report and illustrations and the mounting between the rings, and he stated that what we had in my application was sufficient to provide coverage for all of that.

Q.330: Now, except for the application for the method patent which you have previously testified to, am I correct in assuming that this was your first experience with the filing of any patents or patent, Mr. Wright? [2644-80]

A. I do not have any recollection of having made any previous application to the one which Mr. Abbett first applied for.

Q.331: Was this your first experience with a patent attorney or patent lawyer?

A. Yes, it was.

Q.332: How did you come to go to Mr. Abbett?

A. I asked an individual who worked with M. O. —had worked with M. O. Johnston on this Oil Field Testing Company, and he told me that Mr. Abbett was his patent counsellor or lawyer, and that Mr. M. O. Johnston had employed Mr. Abbett.

Q.333: And you took that recommendation?

A. And I took that recommendation.

Mr. Scofield: Would you read that question and answer?

(Record read as requested.)

The Witness: To refresh my memory, when is the first response to this first application?

Mr. Lyon: I do not know, unless I looked at the file, and I haven't got it here, Mr. Wright. It is up-

(Deposition of Kenneth A. Wright.)

stairs. I can find it. If you want me to, I will send for it.

The Witness: To refresh my memory I would like to know when it was, because at this moment I am not certain.

Mr. Lyon: We will take a recess until I get it. [2644-81]

(A short recess was here taken.)

Q.334: (By Mr. Lyon): I have before me Plaintiff's Exhibit 9 in the Los Angeles civil action 7839, which is a photostatic copy of the file wrapper of the Wright application, Serial No. 291002, and I am endeavoring to answer your question, Mr. Wright, as to the date of the first action of the Patent Office upon your application, and I find in the file a photostatic copy of an action from the Patent Office, paper No. 3, dated November 14, 1939. Now, I place this action in front of you, and ask you if that in any way refreshes your recollection, or is that what you were asking for?

A. That is what I was asking for. This is what I was asking for. That is November 14, 1939.

Q.335: Now that you have it before you, do you desire to alter or change any of your testimony previously given?

A. Yes, I find my memory was in error, because before the response to that application was replied to the Jones-Berdine tests were discussed with Abbott, and my recollection was that that response was later than that.

(Deposition of Kenneth A. Wright.)

Q.336: I hand you——

Mr. Scofield: Did you say “were discussed with Abbett”?

The Witness: Yes, I showed—— [2644-82]

Mr. Scofield: The Jones and Berdine report?

The Witness: ——him the paper and discussed it with him.

Q.337: (By Mr. Lyon): I show you a further part of this file of this application, previously referred to, paper No. 4, which is dated May 8, 1940, and is apparently the response to the Patent Office action of November 14, 1939, and ask you if that is the response you refer to in your previous answer?

A. This is the response to which I made reference.

Q.338: And it was before that response was forwarded to the Patent Office that you had taken up then with Mr. Abbett the Jones and Berdine report?

A. That is correct.

Q.339: And I presume you mean by that the report of Exhibit L.

Mr. Scofield: Is there any mention in that response to the Jones and Berdine report?

The Witness: I have not read it to verify it. to see if there is or is not.

Q.340: (By Mr. Lyon): On page 5 of that report is the following statement:

“And accompanying this announcement a mimeographed copy of paper No. 801-16-B was [2644-83] put out by the Division of Production of the American Petroleum Institute in Los Angeles in a

(Deposition of Kenneth A. Wright.)

paper entitled 'Oil Well Cementing, Factors Influencing Bond between Cement and Formation, P. H. Jones and Denis Berdine of the Union Oil Company of California.'"

Does that answer the question, Mr. Wright?

A. That is correct, if you have read this correct.

Q.341: You check my reading.

A. Well, one of those is confused, if 801-16-B is the title of that paper.

Q.342: I have in my hand a paper which shows it as 901-16-B.

A. With the notation Mr. Lyon has just supplied, on one is "9" and on one it is "8," but the title of the paper is identical with this one.

Q.343: There were not two such papers shown, were there?

A. Not to my recollection or knowledge at any time.

Q.344: It is apparent, then, that the answer to Mr. Scofield's question which he asked you was "Yes," is it not?

A. That is correct. [2644-84]

Mr. Lyon: Now, this morning I said I would produce a copy of a letter written to Mr. A. M. Houghton, December 5, 1947, by Mr. Paul D. Foote. I am producing at this time a photostatic copy of that letter, which letter is Petitioner's Exhibit 1 to one of the papers filed in this proceeding, and ask you if you will accept it as a true photostatic copy of the letter?

(Deposition of Kenneth A. Wright.)

Mr. Scofield: Yes, that appears to be a photostatic copy.

Mr. Lyon: I will offer the photostatic copy of the letter just produced in evidence as Petitioner's Exhibit 4C.

(The letter referred to was marked by the Notary Public as Petitioner's Exhibit 4C, and made a part of this deposition.)

The Witness: Before you ask another question, Mr. Lyon, I would like to make a voluntary correction in my testimony of yesterday, wherein I made an error in computation when I said that the allowable tolerance in casing diameter in three-quarters of one per cent, and thereafter applied that percentage of factor to a 10-inch casing, and stated that three-quarters of one per cent of that diameter would be 1/10 of an inch, and then made subsequent computations involving that first error. The correct [2644-85] amount is 75/1000ths of an inch plus or minus, and the combined addition of the plus or minus would be approximately 5/32nds of an inch, and not the 2/10ths of an inch which I stated. Is that permissible and correct?

Mr. Lyon: It is permissible for you to correct your testimony at any time that you find that you have made an error, Mr. Wright. As to its correctness, I presume that you have now testified correctly. My computations now agree with yours.

* * *

(Deposition of Kenneth A. Wright.)

Q.345: (By Mr. Lyon): You want the second response? A. Yes. [2644-86]

* * *

Q.346: (By Mr. Lyon): You asked about the second response. The second response in the application Serial No. 291027, which eventuated into Patent No. 2338372, is shown by the file wrapper which I have in front of me, and is paper No. 5, dated September 11, 1940.

A. September 11, 1940? [2644-87]

Q.347: You asked with reference to that second response from the Patent Office. Why, Mr. Wright?

A. I note that the second response was dated in the Patent Office September 11, 1940. Which way do I look to find what Claim 12 is, down or up?

Mr. Scofield: Is that in the 317 patent or 352?

The Witness: Because it has got the word "cement" in it, according to my recollection.

Q.348: (By Mr. Lyon): Claim 12, which you have asked about, is a claim which was added by the first amendment filed in the application, that amendment being the one previously referred to as being dated May 8, 1940. Now, that Claim 12 is set forth in full upon page 3 of that first amendment, and I place it before you.

A. Without reading the entire claim, I recollect some matter pertaining to it.

Q.349: All right, what reference did you have to Claim 12?

A. Claim 12 has got the word "cement" in it on

(Deposition of Kenneth A. Wright.)

the first or second line, "cementing" in the first line.

Q.350: It also has it in the fifth line from the bottom of the claim, does it not?

A. Oh, yes, that is correct.

Q.351: What significance did you have with reference to that, in calling our attention to [2644-88] it?

A. I pointed out to Mr. Abbett that the word "cement" might be found to be a debatable or controversial word.

Q.353: All right. Now, you subsequently transferred these applications to another patent agent or attorney, did you not? A. That is correct.

Q.354: And that was Mr. William H. Maxwell?

A. That is correct.

Q.355: The approximate date of that transfer of this application and your work from Mr. Abbett to Mr. Maxwell, I believe is shown, is it not, by the date of the power of attorney to Mr. Maxwell dated sometime in February, 1942, as shown in this file, is that correct, in February, blank day?

A. That only applies to one of them.

Q.356: That applies to this particular application?

A. That is correct, and the date is in February of 1942.

Q.357: That change of attorney is shown to have been recognized by the Patent Office on February 3, 1942? A. February 3, 1942.

Q.358: Mr. Maxwell continued to handle these matters for you, did he not, until litigation in this

(Deposition of Kenneth A. Wright.)

matter arose? A. That is correct. [2644-89]

Q.359: Now, Mr. Wright, Maxwell filed for you an application for a patent, Serial No. 777640? The application was filed on October 3, 1947, for a sectional wall scratcher, and I hand you our file of that application; is that correct? Here is the application.

A. The question now?

Q.360: I feel sure this application which I am putting before you right now, together with the filing receipt for that application——

Mr. Scofield: The application itself, of course, is the best evidence.

The Witness: That is correct, October 3, 1947.

Q.361: (By Mr. Lyon): I want you to refer to the claims of that application to which you took oath, and tell me if it is not true that each one of those claims calls for a hinged or bifurcated collar structure?

A. Will you just enlarge on the "bifurcated"?

Q.362: In that regard I will point out to you the following in Claim 1 of the application. Claim 1 of that application as filed was the omnibus type. Claim 1 calls for each and every novel feature as disclosed in the application; that is correct, is it not, and you are watching me while I am reading?

A. That is correct.

Q.363: Claim 2 calls for a body including arcuate sections conforming to the exterior of the well part and [2644-90] means connecting the sections together around the well part and means connecting the sections together around the well

(Deposition of Kenneth A. Wright.)

part? A. That is correct.

Q.364: That is a hinged structure, is it not?

A. That is correct.

Q.365: Now, Claim 3 called for, and I am reading the original claims; the body including two semi-circular sections and means connecting the sections together around the well part?

A. That is correct.

Q.366: That is also a hinged structure, is it not?

A. That is correct.

Q.367: Claim 4 calls for the body including two semi-circular sections, and I am omitting, and means connecting the sections together around the well part? A. That is read correctly.

Q.368: That is a hinged structure, is it not?

A. That is correct.

Q.369: Claim 5 calls for the body including two semi-circular sections, and I am eliminating again—— [2644-91]

* * *

Q.370: Claim 5 calls for the body including two semi-circular sections, and I am reading from the claim filed, and means connecting the sections together around the well part. That is correct?

A. That is read correctly.

Q.371: And that is a hinged structure?

A. That is correct.

* * *

Q.372: (By Mr. Lyon): And Claim 6 of the application as filed calls for the body including two

(Deposition of Kenneth A. Wright.)

semi-circular sections, and skipping again, and means connecting the sections together around the well pipe? A. That is correct.

Q.373: That is a hinged structure?

A. That is correct.

Q.374: And Claim 7 calls for the body [2644-92] including two semi-circular sections, and skipping in the claim, and means connecting the sections together around the well part; that is correct, is it not? A. That is correctly read.

Q.375: And that is a hinged structure?

A. That is correct.

Q.376: Claim 8 calls for the body including two semi-circular sections with meshing ears at adjoining edges and pins coupling the ears of the two sections. That is a hinge structure, is it not?

A. That is correct. [2644-93]

* * *

Q.378: (By Mr. Lyon): Claim 9 of the application reads: the body including two semi-circular sections with apertured ears at each edge of each section, meshing to register the apertures thereof, and pins engaged in the registering apertures to couple the sections. That is correct, is it not?

A. That is correctly read.

Q.379: And that also refers to the hinge structure, does it not? A. That is correct.

Q.380: And Claim 10 calls for the body including the two semi-circular sections, with apertured ears at each edge of each section, the ears of these

(Deposition of Kenneth A. Wright.)

sections meshing to register the apertures thereof, and pins engaging in registering apertures to couple the sections. That is the hinge structure, is it not? [2644-94] A. That is correct.

Q.381: And Claim 11 calls for an elongated tubular body including two semi-circular sections with meshing ears at adjoining edges, each section including a main portion spaced from the well part and having a plurality of finger openings and flanges at the ends of the main portion engagable with the exterior of the well pipe, and connecting pins engaged in the meshing ears. That is correct, is it not?

A. You said "pip" and the word is "part." With that alteration, that is correct.

Q.382: And it also refers to the hinge structure, does it not? A. That is correct.

Q.383: And Claim 12 calls for an elongated tubular body including two semi-circular sections with meshing ears with registering apertures at adjoining edges, each section including a main portion spaced from the well part and extending substantially parallel therewith and having a plurality of finger openings and flanges projecting readily inward at the ends of the main portion engagable with the exterior of the well part, and connecting pins engaged in the apertures of the meshing ears. That is correct, is it not?

A. That is correct. [2644-95]

Q.384: And that refers to the hinge structure; does it not? A. That is correct.

(Deposition of Kenneth A. Wright.)

Q.385: Claim 13 reads precisely in the part that I have read the same as does Claim 12, does it not?

A. As far as I can read it, that is correct.

Q.386: And that also refers to the hinge structure?

A. That also refers to the hinge structure.

Q.387: And Claim 14 in the application as filed, beginning on line 2 of Claim 14 and extending through line 8, defines the two section hinge structure with the connecting pin, does it not?

A. That is correct.

* * *

Q.388: (By Mr. Lyon): Claim 15 defines the well scratcher as including sections arranged edge to edge with connecting members joining the sections together at their edges, does it not?

A. That is correct.

Q.389: And that refers to the hinge structure, does it not? A. That is correct. [2644-96]

* * *

Q.391: (By Mr. Lyon): Claim 16 also includes the definition that the structure includes sections arranged edge to edge, and that the sections are secured together in that edge to edge relationship by pins engaging the connecting ears, does it not? A. That is correct.

Q.392: I did not attempt to read word for word on that, but you followed my explanation of the claim from the copy of the Claim 16, did you not?

(Deposition of Kenneth A. Wright.)

A. That is correct.

Q.393: And it also refers to the hinge structure, does it not? A. That is correct.

Q.394: Now, Claim 17 calls for this same multiple section structure with the sections arranged edge to edge, and calls for the sections having registering ears at the [2644-98] adjoining edges and pins engaging the ears and connecting the sections together, does it not?

A. That is correct.

Q.395: And that also refers to the hinge structure described in this application, does it not?

A. That is correct.

Q.396: And as shown by this file, this application included seventeen claims only when it was filed; is that correct?

A. Where do you find seventeen?

Q.397: It is not on the filing receipt. I said as shown by the file that is the limit of the claims?

A. That is correct.

Q.398: So that every claim of this application as filed was limited to the hinged structure as shown in the drawings, where you had sections as shown in the Figures 1, "X" and "Y," which were joined together by connecting pins, designated with the letter "T," I believe in Figure 1; is that correct?

A. That is correct.

* * *

Q.399: (By Mr. Lyon): Those are the claims to which you took oath, are they not?

(Deposition of Kenneth A. Wright.)

A. That is my understanding. [2644-99]

* * *

Q.400: (By Mr. Lyon): Now, Mr. Wright, reference has been made to a conference had between you and Mr. Barkis at the California Club on or about August 22, 1946, with Mr. Scofield. Do you recall that conference? A. I do.

Q.401: Do you recall it was had on that day or beginning that day? A. I believe it was.

Q.402: Will you tell me how that conference was arranged, if you recall?

A. At the request of Mr. Thomas E. Scofield.

Q.403: How did you hear from Mr. Scofield?

A. My recollection is that a telegram——

Q.404: That is, he telegraphed you; where from?

A. Kansas City.

Q.405: Did he in that telegram ask you to meet him and arranging the time for the meeting?

A. I believe that is correct. [2644-100]

Q.406: And pursuant then to that arrangement——

* * *

The Witness: It could have been telephone, I am not at this moment exactly certain.

Q.407: (By Mr. Lyon): It was either the telephone or a telegram? A. That is correct.

Q.408: If it was a telegram, you don't have the telegram available at the present time, do you?

A. Not before me.

Q.409: Was any request made in the communica-

(Deposition of Kenneth A. Wright.)

tion arranging for this that you meet with Mr. Scofield with your attorney? A. There was not.

Q.410: I presume that pursuant to the arrangements made with Mr. Scofield that a conference was had? A. That is correct.

Q.411: Did you and Mr. Barkis have more than one conference with Mr. Scofield at that time or about that time?

A. There was only one conference, according to my recollection, between Mr. Scofield, Mr. Barkis and myself.

Q. 412: At that conference did you take an attorney [2644-101]

A. No, I did not.

Q.413: Were you advised by Mr. Scofield at the time of this conference that perhaps you should have an attorney present?

A. He did not advise me.

Q.414: Did he make any suggestions that you should have an attorney present or that you should call one at any time during that conference?

A. He did not.

Q.415: Did you at any time during that conference or with Mr. Barkis ever call any patent agent or attorney?

A. I have no recollection whatsoever of making any calls to any such person.

Q.416: At that conference will you state precisely, as nearly as you can recall it, the conversation had between each of the parties present, and if

(Deposition of Kenneth A. Wright.)

you cannot give the precise conversation give to the best of you recollection its entire substance.

A. The substance of that conversation, according to my present recollection, and I will note that I heard Mr. Barkis' testimony, and I heard Mr. Scofield read into the record his memorandum, so that——

Q.417: You mean a memorandum?

A. He asserted it was his, according to what I heard him say. The conference was held in the afternoon [2644-102] of August 22, 1946, at the California Club, Barkis, Wright and Scofield being present, and Mr. Scofield was extremely critical of the contract and what it contained or called for, and implied that he would never have let—never would let Mr. Hall go along under that contract, and we would therefore have to make an amendment, and he had an amendment prepared, which he presented.

Q.418: Just a minute there. Just what do you mean that he would never let Mr. Hall go along on a contract?

A. Well, it was his statement the contract would have to be altered, so if it was altered, why, a new condition would have to be—come into existence.

Q.419: Well, do you mean that he stated that he would not have let Mr. Hall go along on a contract?

A. I meant by that he stated the contract would have to be changed, or else there would have to be some litigation and he also, according to my recollec-

(Deposition of Kenneth A. Wright.)

tion, asserted that he was going to employ the firm of Lyon & Lyon to do so. [2644-103]

* * *

Mr. Lyon: Proceed with your statement as to what the conversation was that was had at the California Club at that time?

A. We asked Mr. Scofield for some reason or statement why he had abandoned the two applications which were involved in the contract which was entered into on September 15, 1944, and he stated that he had filed additional applications, and we asked him who owned them, and he said they were the property of Mr. Hall, but that he would assign them if we would sign the—execute the amendment to the contract.

Q.420: Did you ask to see those applications?

A. My recollection is I asked him what he had done, and not being entirely familiar with what those things consisted of; he said that he would show us the application which he had made, and I believe he did at [2644-104] that time, although he retained possession of it.

Q.421: Did you any time later obtain a copy of the application that he showed you at that time?

A. Mr. Scofield, according to my present recollection, he said that he would provide B & W with a copy of some of the transactions, and that I could pick them up in one bundle the next morning at the desk of the California Club.

Q.422: Did you do so?

(Deposition of Kenneth A. Wright.)

A. I did pick them up the next morning at the California Club.

Q.423: Do you recall what you obtained at that time? What did you obtain in this bundle?

A. I am not able to properly identify them in their entirety.

Q.424: What did you do with them?

A. I went over to Mr. Maxwell's office with them, and asked him to look at them.

Q.425: Were you advised that you would have to return this bundle of papers that you received?

A. The arrangement was that they would be returned to Mr. Scofield on Monday morning, I believe.

Q.426: And you were under promise not to make any copies of them, weren't you?

A. That was my understanding. They were for examination, [2644-105] they were for the purpose of examination only.

Q.427: And you did return them after you had exhibited them to Mr. Maxwell?

A. I did return them to Mr. Scofield personally, according to my recollection.

Q.428: Have you any recollection as to what these papers were?

A. I cannot identify them in their entirety, and call them by name.

Q.429: Was there a copy of the 627013 application?

A. My understanding was that there was a copy

(Deposition of Kenneth A. Wright.)

of the application—would you call that number again?

Q.430: 627013.

A. There was a copy of that application, according to my recollection.

Q.431: Were there any other papers?

A. I believe the others referred to the two abandoned applications.

Q.432: What papers were those, do you recall?

A. Whatever the proceedings are in the Patent Office.

Q.433: How big a bundle was this?

A. It was a package about twice as thick as this, maybe three times as thick as this particular file.

Q.434: This file being about, let me see, about 3/16ths [2644-106] of an inch, then that would have been a little over a 1/2-inch file; is that correct?

A. That much, at least, or a little bit more.

Q.435: Was it a photostatic copy?

* * *

The Witness: There were drawings enclosed, so that there were—my recollection is that there were drawings attached to typed sheets, but that is purely speculation and—but I know there were drawings.

Q.436: (By Mr. Lyon): During this time did you tell Mr. Scofield that you would not modify the contract?

A. I told Mr. Scofield we were not interested in his—in changing the contract, or any alteration.

Q.437: Do you recall any other conversation

(Deposition of Kenneth A. Wright.)

had at this time and place with Mr. Scofield concerning this attempt to modify or rewrite the contract of September 15, 1944?

A. In the discussion between the three of us on August 22, 1946, there were several statements made by me to the effect that Mr. Hall had no rights whatsoever in the interference, and the contract was the result of him knowing that he had no rights as to the entire invention of these—of this general set of ideas.

Q.438: In Mr. Scofield's memorandum or the memorandum which was read here, there was a statement that there was [2644-107] considerable comment as to Hall's standing in the interference, and it was Wright, et al.'s opinion that by no stretch of the imagination could he prevail. Is that substantially a correct statement with respect to what transpired during this time?

A. Would you read it again, or let me read it?

Q.439: I will let you read it. It is a transcript taken from the testimony. I haven't had an opportunity to check it word for word, I don't think anybody else has.

A. That is correct. If the word "he" refers to Hall in this third line, why, that is correct, Hall had no chance of prevailing in the interference.

Q.440: Did you explain to Mr. Scofield why?

A. I did.

Q.441: What explanation did you make?

(Deposition of Kenneth A. Wright.)

The Witness: —I had information that Mr. Hall was present at the Jones and Berdine test here at Dominguez Oil Field in December of 1939, January, 1940; had observed our—my scratcher in operation there, and what it had done in the way of constructive results, and that we had been actively in the business of selling scratchers for about a year and a half prior to Hall's coming on the market [2644-108] with a scratcher; and that this Jones and Berdine operation had been made the subject of an API report. It had been transmitted by catalog, by newspaper and magazine articles—strike “newspaper”—I mean only periodicals of the industry, so that in my opinion he had no standing whatsoever in the interference.

Q.442: (By Mr. Lyon): Were you present at any time when Mr. Scofield had a telephone conversation with Mr. Maxwell?

A. No, I was not.

Q.443: Did you learn that on the following Monday that Mr. Scofield had talked with Mr. Maxwell?

A. Mr. Maxwell told me that very shortly after the conversation, and I don't—I mean within a day or two days.

Q.444: Was any discussion had at this time of B & W selling its business to Mr. Scofield or Mr. Hall?

A. It is my recollection that Mr. Barkis made some mention of it, would they be interested in buy-

(Deposition of Kenneth A. Wright.)

ing B & W, but it did not materialize into any discussion.

Q.445: Were you told at this time by Mr. Scofield that unless you signed a supplemental agreement that Hall would not continue thereunder, but would file a suit in the courts?

A. It was my understanding that it was an ultimatum, that we would have to sign the amendment to the [2644-109] contract, or whatever the document might be termed, or else we would suffer that risk.

Mr. Lyon: We will take a recess for just a few minutes.

(A short recess was here taken.)

Q.446: (By Mr. Lyon): Mr. Wright, what is the accuracy used in the manufacture of scratchers and in the handling of scratchers and in their packing and shipping, to insure that a uniform product is mounted on a casing in the well?

A. I believe Mr. Barkis and subsequently by myself referred to the tolerances of the inside diameter of the device, the collar of the device in regards to casing, and in addition to that is the problem of the wire. Now, as I am informed, and observations I have made, wire of the nominal diameters which are used on these scratchers, which is in the 70 to 80 thousandths range, the manufacturer is permitted an allowable difference in diameter of 3 thousandths of an inch, and that might be a little more, but that is my present recollection, which means that on 78

(Deposition of Kenneth A. Wright.)

thousandths of an inch wire specification by purchase you can have a minimum of 75 thousandths, a maximum of 81 thousandths. And it is observed that any coil wire will change from the starting end to the finishing end in its diameter, as well as in between.

Now, scratchers are formed on any one [2644-110] of a great number of dies or jigs which humans devise, some hand-winding and hand-angle forming. Some are power machines. Each one of them has its own ingenuity for forming the wire according to what the particular type might be desired. The diameter of any wire is related to the maximum angle of deformation which the manufacturer limits in its recommendation. So, when you do make a coil out of wire, spring steel wire of this nature, you, first of all, have a variable diameter coil as a product, due to this variation in diameter of the wire itself. You have additional variations if you wind it over a core or by some one of the methods of winding coils. The angle at which the wire goes off from the last particular coil into a free section is a variable, because when you get the last wind in the machine, why, you usually overwind or overform, and subsequently, depending upon the particular use which you are making of the wire, normalize the wire, so as to even change the molecular structure of the wire. At that time there is a creeping action. It could also be described as warping, and this overbending is of an amount which a particular manufacturer will use so as to get some degree of uni-

(Deposition of Kenneth A. Wright.)

formity after the normalizing. And then after this, all of this multiplicity of variables, and I would additionally note that actually at the winding of the coils about the core or the other methods, the distance [2644-111] apart, apart of the particular coils will vary according to the machine and the irregularities of the diameter, so we come to the point of taking one of these scratcher wire fingers with a coil interposed between the two ends, and place the two ends of two of the scratcher fingers over a rivet by hand, and then in some manner hold it while it is struck with a riveting machine, and that can be one blow or numerous blows, depending upon the equipment utilized. The alignment of the coil within the holes through which they pass varies by the accuracy of the operator and his ingenuity in quickly assembling the device.

Thereafter the device is tossed, and I don't mean violently, into a pile from which they are subsequently picked up, singles or three or four at one time, whatever the particular worker might elect to do, and either dipped it into big vessels or put on conveyors so that the pinning operation is taking place. From there they are tossed or placed in bins or boxes, and in bins I have seen them eight foot high or higher, stacked in great numbers, without any regard whatsoever of the position of one over the other, just simulating wheat poured in a sack, and that is a strong observation, but nevertheless, it is of that nature.

From there they are placed in boxes of variable

(Deposition of Kenneth A. Wright.)

sizes, and in the case of the device of this nature which we supply the industry, there are from twenty-five [2644-112] to forty or more of these scratchers in one box. I have seen Mr. Hall's scratchers in an open van on—strike the word “open”—in a van in which there were a large stack tossed in in the same manner I have previously described, and from there they go either through supply houses or by service men to the well, where they are unpacked if they had been in boxes, or tossed on the casing rack or on top of the casing. Thereafter they are slid on the casing in a manner which is accomplished by removing the protector, sliding them on the casing, and then the welder applies the beads above and below the scratchers, and in this process I would particularly note that the welder, after having finished the welding required on one joint of building the beads, he rolls the joint of casing over against the one previously mounted, in which the wires are deformed between their end, outer end and the coil, and are subjected to a pretty rough treatment. And when the time comes to run this device mounted joint of casing into the well it is rolled off the casing rack onto blocks or on the rig floor frequently, and then pulled into the derrick up into the “V” as they call it, and subsequently latched onto by the small type elevators or cat line, and hoisted up into the derrick preparatory to being screwed into the previously run-in joint. So that the accuracy of the devices from start to finish [2644-113]

(Deposition of Kenneth A. Wright.)

is extremely variable, and to reduce this thing to minimums is out of limit.

In addition to that, I would say that different manufacturers of steel wire have different physical and chemical specifications, and you have to account for those different specifications when you do the forming, because the creeping is more, the normalizing is different, and we will take all of this into consideration, and sell on the open market a 5½-inch scratcher for \$6.00, and include in that price discounts to supply houses and maybe other people entitled to some part of this total \$6.00 sales price, provide delivery to the well, for the service men there, and the reader of this can make his own estimate of how much money was spent in manufacturing the device, and the degree of accuracy that accompanied it and to extend this just a little further, why, the device will be taken clear to Eastern Venezuela and delivered to the warehouse of a consumer for a total of \$6.00 American money.

Q.447: I take it from what you say——

Mr. Scofield: Just a minute, let me have——

Q.448: (By Mr. Lyon): ——that these are not precision instruments? A. That is correct.

Mr. Scofield: Read the first part of that long answer, [2644-114] about the manufacture of the wires?

(Record read as requested.)

Mr. Scofield: Won't you fix the date of that wire operation?

(Deposition of Kenneth A. Wright.)

The Witness: I would like to make this addition: that in speaking of the riveted construction I am referring to the type of scratcher which was supplied the Gulf Oil Corporation in June or July of 1947, and observations made of Mr. Hall's product, having not seen him actually assemble a stud-mounted device in a shop, and that if I am in error in this variation in diameter permitted, the standards which are prevalent in the industry should be substituted.

Mr. Scofield: Well, ignore my question. I can bring it out on cross-examination.

Q.449: (By Mr. Lyon): When these scratchers are finally lowered in the well on the casing are the wires at the same angles with relation to the radial lines of the scratcher?

A. Repeat that question, please.

Mr. Lyon: Read it, please.

(Question read by the reporter.)

The Witness: I interpret that you mean all of the same angular relation?

Q.450: Yes. [2644-115]

DEPOSITION OF KENNETH A. WRIGHT

(In Rebuttal)

Direct Examination

By Mr. Lyon:

Q.1: You are Kenneth A. Wright, who previously testified in this matter, are you not?

A. I am.

Q.2: You are an officer of B & W?

A. I am an officer of B & W, Incorporated, a California Corporation.

Q.3: There has been some question concerning your filing of your original applications brought out by [2644-322] cross-examination of Mr. Barkis in this proceeding. You filed originally what application, the first one?

A. Do you want me to identify it by number?

Q.4: Or substance. I will give you the number unless you know the number.

A. I don't recollect numbers.

Q.5: Which one was it?

A. The first one was described as a Method Patent.

Q.6: I will place before you what I believe to be the method patent which you are referring to and a copy of which has heretofore been placed in evidence, and that is Patent No. 2338372, is that correct?

A. That is the number of the patent for which I applied and subsequently received, the patent numbered as you stated.

(Deposition of Kenneth A. Wright.)

Q.7: The application for that patent was filed according to the notation contained thereon, on August 19, 1939. Prior to the filing of this application, had you discussed with Mr. James M. Abbett, the attorney, the substance of this application?

A. I had.

Q.8: Had you and Mr. Barkis together discussed that matter with Mr. Abbett?

A. No, not together. I mean by that that my recollection [2644-323] is my discussion—I am the only one that had the discussion with Mr. Abbett prior to this filing. Mr. Barkis and I discussed it together, but not in the presence of Mr. Abbett.

Q.9: Now, subsequently you filed an application through Mr. Abbett for a second patent, that being 2374317, a copy of which I place before you, is that correct, Mr. Wright?

A. I am the patentee of Patent No. 2374317 and Mr. James M. Abbett was my attorney for part of the time when that patent application was made.

Q.10: But that application was filed at the time that Mr. Abbett was representing you in these matters, was it not? A. That is correct.

Q.11: It has been pointed out that there is no disclosure in your application—in either of the applications that resulted in the granting of either of these patents as to how these scratchers were mounted upon the casing. Have you any explanation for that?

* * *

A. With reference to the first patent, and I am

(Deposition of Kenneth A. Wright.)

calling this 2374317 the second patent, Mr. Abbett said and his advice was "This is a method patent, requiring [2644-324] only schematic drawings, illustrations, et cetera."

With reference to the second patent I supplied Mr. Abbett with copies of the Jones & Berdine paper which has been mentioned in these proceedings numerous times, which contains the illustrations and photographs, and supplied him also with our Bulletin 10, and it was his advice and counsel, which I followed, that using the word "secured" and illustrating it in the manner shown in this particular patent was the correct way and the only necessary way to illustrate it.

* * *

Q.12: (By Mr. Lyon): State whether or not you discussed with Mr. Abbett including in this application for what you have described as the second patent, and I will refer to it as the 317 patent, setting forth in there the rotatable mounting of the scratcher.

A. Mr. Abbett's counsel and advice was that things illustrated in that manner, rotatable on casing or on devices, was so old, and was not patentable, and advised me to file it in the manner which—in the form which this takes. [2644-325]

* * *

Q.13: (By Mr. Lyon): Did you discuss this advice with Mr. Barkis?

(Deposition of Kenneth A. Wright.)

A. I have no recollection of discussing that particular feature with Mr. Barkis.

Q.14: You carried on the prosecution of this application for some time with Mr. Abbett, I believe you have stated, on these applications, and then you changed attorneys, did you?

A. That is correct.

Q.15: Why?

A. I came to the conclusion that Mr. Abbett, and I regret to say that the gentleman has passed on, and I do not mean to belittle him, but I lacked confidence in his decisions and conclusions and advice.

Q.16: I notice in none of the patents or your advertising is ever used the word "rotatable" with reference to the mounting. How do you explain that, Mr. Wright?

* * *

The Witness: your question is directed solely to the use of the word, specific word "rotatable"?

Q.17: (By Mr. Lyon): That is right. [2644-326]

A. And limited to that?

Q.18: Right.

A. In all of our advertisements the devices are illustrated rotatably mounted between stops, and never in any other manner, and it is my observation, after having thirty some odd years in this industry, that all the people that are in this industry know by looking at it what it means and how to mount it and use it. It is not necessary to put the word "rotatable" on it any more than you might in

(Deposition of Kenneth A. Wright.)

advertising an automobile have an arrow pointing to the wheels and the expression "these turn," "these wheels turn" or "wheels turn on their axles."

Q.19: I notice also that in your 317 patent there is only one form of scratcher illustrated. Have you an explanation for that, Mr. Wright?

A. I followed the advice and counsel of Mr. Abbett, a patent attorney, who had charge of the prosecution of the patent at that time.

Q.20: Had you ever filed a patent application before you filed the applications for these two patents?

A. According to my recollection, these two are the first two.

Q.21: So that you were totally without experience with respect to these matters at that time; is that correct? [2644-327]

A. That is correct.

Q.22: In the specification 317 patent set forth upon page 3, lines 64 to 68, a certain relationship of the wire ends to the well bore. Will you read that sentence and state whether or not that is the way in which all scratchers were operated up to at least the time of the filing of that application?

* * *

Mr. Lyon: 64, first column, page 3. It starts at line 64.

The Witness: I will start reading at line 64, column 1 of page 3, which reads as follows:

(Deposition of Kenneth A. Wright.)

“When a lifting, lowering or rotating action is produced, the end of the fingers ‘22’ frictionally engage the well bore and these fingers tend to flex so that the end position of the portions ‘24’ scrape the walls of the well bore.” Ending on line 68.

Q.23: (By Mr. Lyon): Was that statement intended by you, Mr. Wright, to be a teaching as to how these scratchers should operate?

A. That was my intention.

Q.24: Will you explain why you were desirous of having the ends of the wires engage the well bore? [2644-328]

A. The application—strike that—The patent which I was attempting to obtain called for the operating of the well wall at a certain time—Strike that and I will start over.

The intention was to provide a device for operating the walls of the well, and my conception of abrading was that it should require the end of the wire, or a wire end, whichever is preferable.

Q.25: What type of formation or what type of structure were you trying to abrade, Mr. Wright?

A. The principle object of the invention was to abrade the permeable strata where the——

The Reporter: Will you repeat that, please?

The Witness: Where the production sections are positioned, which are under sand sections, usually.

Q.26: (By Mr. Lyon): I believe that you continued to make some statement which was not caught by the reporter with respect to the positioning of the filter cake.

(Deposition of Kenneth A. Wright.)

A. It is only on the permeable strata that the filter cake is deposited.

Q.27: What do you mean when you use the words "filter cake"?

A. Filter cake is a deposit on the permeable strata of a well composed of the solid material of the drilling fluid and that is the filter cake, and although [2644-329] it is suspended in whatever fluid the filter cake—whatever fluid might be used to drill the well.

Q.28: Well, now, can you explain the operation of the deposition of that so-called filter cake on the permeable strata? For example, compare it with the ordinary filtering operation through a filter paper, if you can.

* * *

The Witness: The filtration method or process phenomenon in a well on the permeable strata is identical with the phenomenon of filtration through a filter paper in a laboratory or wherever it takes place; that is, it is a separation of the fluid material from the solid material.

Q.29: (By Mr. Lyon): And fluid material passes through the filter paper or through the permeable strata, is that right?

* * *

The Witness: That is correct.

Q.30: (By Mr. Lyon): Now, you have stated that you wanted the ends of the wires to abrade the formation; why?

* * *

The Witness: The filter cake in my opinion

(Deposition of Kenneth A. Wright.)

should [2644-330] be removed in order to permit the cement to have direct contact with the wall of the well at those positions.

Q.31: (By Mr. Lyon): State whether or not those are the critical positions in a cementing operation.

* * *

The Witness: The critical part of a well is the cementing of the casing opposite the production sections, be that gas or oil, or it could even conceivably be water, the perfect cementation between upper and lower limits of each of these permeable strata.

Q.32: (By Mr. Lyon): What is the object of cementation?

* * *

The Witness: The object of the cementation is to permit you to withdraw from that particular strata the fluid or gas contained therein to the exclusion of any other undesired portion of the well.

Q.33: (By Mr. Lyon): Does the wall cleaning guide in a well operate to abrade the well wall by having the ends of the wires in contact with the wall surface?

* * *

The Witness: Yes, they do.

Q.34: (By Mr. Lyon): Does it abrade the wall in any other way? [2644-331]

* * *

The Witness: I don't understand you.

Q.35: (By Mr. Lyon): Does it abrade the well

(Deposition of Kenneth A. Wright.)

wall in any other way other than the ends of the wires in engagement with the well wall?

* * *

The Witness: The purpose of the device in my opinion—the purpose of the device in my design, in my opinion the ends, the outer ends abrade the well wall.

Q.36: (By Mr. Lyon): Mr. Wright, I hand you Exhibit HHH, which is a Weatherford scratcher purchased, and I ask you if to your knowledge there has been any change whatsoever made in that scratcher other than the cutting of the ends of the wires off and welding the collar together?

A. According to my knowledge, this device is unaltered except for cutting the ends to a uniform diameter and it is changed from a split ring or sleeve to a solid ring by welding at the points which are blackened so as to make a continuous ring, which it was not at the time of receipt by B & W.

Q.37: Has there been any change whatsoever made, to your knowledge, in the direction that the coils extend in either row of such coils with respect to the radius of this scratcher?

A. Not to my knowledge.

Q.38: Mr. Wright, I will refer you to [2644-332] Figure 27 of the Jones & Berdine report, and I call your attention to the fact that there is more or less a saw-toothed formation at the end of the cement——

* * *

(Deposition of Kenneth A. Wright.)

Q.39: (By Mr. Lyon): —where the cement is of an enlarged diameter approximating that or is that of the inside diameter of the canvas bag, and I will ask you if you observe that that is a saw-toothed shoulder. First, do you make that observation?

* * *

The Witness: I am sorry, but Mr. Scofield's interruption caused me to lose the trend of your question.

Q.40: (By Mr. Lyon): I first want to know if that, in your opinion, is a saw-toothed shoulder at the point I defined.

* * *

The Witness: This is a general term which might be [2644-333] applied to that particular point on this billet.

Q.41: (By Mr. Lyon): In your opinion, could the wall cleaning guide that had been utilized in that test produce a uniform or even should under the conditions of its operation in the test portrayed by Figure 27 of the Jones & Berdine report?

* * *

The Witness: In my opinion, it could not.

Q.42: (By Mr. Lyon): Why?

A. There are several reasons, one of them being that during the period that fluid cement passed by this scratcher there was only one and a half reciprocations, so that there was deposition, removal, and redeposition during this period of time, and sufficient time and number of strokes were not

(Deposition of Kenneth A. Wright.)

permitted to make anything close to a uniform pattern at that point on the billet.

Mr. Scofield: Will you read that answer, please?

Q.43: (By Mr. Lyon): Proceed, just finish your answer.

A. That is the principle one.

Q.44: All right.

Mr. Scofield: Read the answer please, Mac.

The Witness: There is also, if I may add, the question of whether the operator lowered the casing to the same point at each time he made a reciprocation at any time during the operation, because it was a manually-operated [2644-334] operation carried out by a man on the tank.

Q.45: (By Mr. Lyon): Now, is it also true——

Mr. Scofield: Wait just a minute. Read the answer.

Mr. Lyon: Just a minute, until we finish, and you can get it then.

Q.46: Isn't it also true that the wires of the well cleaning guide are positioned around the periphery of that guide in a spiral fashion?

* * *

The Witness: The device which—a replica of the device which caused this pattern that is in evidence here is here on the table before us, and the device speaks for itself.

Q.47: (By Mr. Lyon): That device you refer to is Petitioner's Exhibit M.

Mr. Scofield: Just a minute. Let me have the last two questions and answers, please.

(Deposition of Kenneth A. Wright.)

(Record read as follows:)

“Q.41: In your opinion, could the wall cleaning guide that had been utilized in that test produce a uniform or even shoulder under the conditions of its operation in the test portrayed by Figure 27 of the Jones & Berdine report?

“Mr. Scofield: The same objection. [2644-335]

“The Witness: In my opinion, it could not.

“Q.42: (By Mr. Lyon): Why?

“A. There are several reasons, one of them being that during the period that fluid cement passed by this scratcher there was only one and a half reciprocations, so that there was deposition, removal and redeposition during this period of time, and sufficient time and number of strokes were not permitted to make anything close to a uniform pattern at that point on the billet.

“Mr. Scofield: Will you read that answer, please?

“Q.43: (By Mr. Lyon): Proceed, just finish your answer. A. That is the principle one.

“Q.44: All right.

“Mr. Scofield: Read the answer, please, Mac.

“The Witness: There is also, if I may add, the question of whether the operator lowered the casing to the same point at each time he made a reciprocation at any time during the operation, because it was a manually-operated operation carried out by a man on the tank.”

The Witness: Operating a block and [2644-336] tackle.

(Deposition of Kenneth A. Wright.)

Q.48: (By Mr. Lyon): The length of the stroke of reciprocation was determined in this operation, was it not, by the man pulling on the rope?

* * *

The Witness: Presuming the man was instructed previously, but the actual amount of rope he pulled through the block and tackle was operated by this man, and he alone performed that particular task.

* * *

Q.49: (By Mr. Lyon): You were there, were you not, Mr. Wright, and observed this operation? [2644-337]

* * *

A. Yes, that is——

The Witness: I witnessed one test where the man on the tank raised and lowered the casing in the simulated well bore, which was the steel cylinder with a canvas bag inside of it

* * *

Q.51: (By Mr. Lyon): And the only way he had of determining the length of the stroke was his visual observation of how much rope he pulled through the block and tackle, was it?

* * *

The Witness: As far as I was able to determine that is the only way he measured it or controlled it.

Q.52: (By Mr. Lyon): You have heard the testimony of Mr. Barkis given on direct examination two days ago, Tuesday? A. Yes, I did.

Q.53: And you heard his statement with reference

(Deposition of Kenneth A. Wright.)

to the fact that B & W had never received any assignment of the 627013 application; is [2644-338] that correct?

* * *

The Witness: B & W had never received any assignment of patent application 623—627013.

Q.54: (By Mr. Lyon): Did B & W ever receive any assignment of the application Serial No. 55619?

* * *

The Witness: They have not or it has not, which is more correct.

* * *

The Witness: Speaking of the corporation as "it."

Q.55: (By Mr. Lyon): You were present in the court, Mr. Wright, in May of 1949, at the time of the partial trial of the action of Jesse E. Hall versus Kenneth A. Wright and B & W, Inc., Civil Action No. 7839? [2644-339]

A. I was.

Q.56: At that time do you recall hearing Mr. Scofield, in response to the court, state to the court that "I do not intend to assign the 627013 application to B & W"?

* * *

The Witness: My own recollection is that he made that statement to the court.

Q.57: (By Mr. Lyon): Mr. Wright, there has been testimony given on behalf of Hall with reference to the deformation of scratchers, particularly wall cleaning guides. Are you familiar with the

(Deposition of Kenneth A. Wright.)

Shell tests that were run in Louisiana that Mr. Barkis referred to this morning?

* * *

The Witness: It is my recollection that I saw either one or two of those scratchers in our Houston office some two or three months after these were given to Mr. Barkis.

Q.58: (By Mr. Lyon): In the scratchers that you saw, was there any deformation of the wires?

A. No. [2644-340]

* * *

Q.59: (By Mr. Lyon): Mr. Wright, I will hand you two photographs and I will ask you if you can identify these photographs? A. I can.

Mr. Lyon: I will ask that the photographs which I handed to the witness and which he says he can identify be marked for identification as the Petitioner's Exhibits 6Z-1 and 6Z-2.

(The photographs referred to were marked by the reporter as Petitioner's Exhibits 6Z-1 and 6Z-2, copies of which are made a part of this deposition.)

Q.60: (By Mr. Lyon): Will you tell me what the photographs 6Z-1 and 6Z-2 are, Mr. Wright?

A. These are photographs which I instructed to be taken of the scratcher which I obtained down in the Long Beach oil field area after it had been removed from a casing which had been pulled from a well and was cut from the casing by a welder, and the welder was not in the employ of B & W, nor, did he do this cutting or removing [2644-341] at my

(Deposition of Kenneth A. Wright.)

instructions or request. I took the scratchers—this scratcher and had the photographs and the prints developed from the negatives taken.

Q.61: What are the scratchers in these photographs, Mr. Wright?

A. I am assuming they are scratchers which had been made by the Weatherford Spring Company.

Q.62: Why do you make such an assumption?

* * *

The Witness: I do not know of any other manufacturer of an appliance of this nature and at the time that these were recovered—at the time that this was recovered, rather. I have only one conclusion and that is it was manufactured by the Weatherford Spring Company.

* * *

Q.63: (By Mr. Lyon): What time was this, Mr. Wright?

A. I will state that B & W did not make it.

Q.64: (By Mr. Lyon): What time was this, Mr. Wright?

A. These photographs are dated October 4, 1947, and at this moment I cannot recollect how much before this particular time I obtained the scratcher.

Q.65: You obtained these prints from the photographer, did you? [2644-342]

* * *

The Witness: That is correct.

Q.66: (By Mr. Lyon): In the regular course of business? A. That is correct.

* * *

(Deposition of Kenneth A. Wright.)

Q.67: (By Mr. Lyon): These prints, Exhibits 6Z-1 and 6Z-2, were dated when you received them, were they, Mr. Wright?

* * *

The Witness: At this moment I cannot state whether the October 4, 1947, refers to the date of taking the picture, but that is my belief.

Q.68: (By Mr. Lyon): Well, my question was, the prints were so dated when you received them, is that correct? A. That is correct.

* * *

The Witness: They were marked by the photographing company who did the work.

Q.69: (By Mr. Lyon): Do you recognize the scratcher [2644-343] shown in these photographs?

* * *

The Witness: I believe the design of this scratcher is identical to that which Mr. Hall put into evidence during the period we took depositions in Houston and I find no material difference between that and this device here, which was purchased by B & W, from some supply company.

Q.70: (By Mr. Lyon): By this, which exhibit do you refer to?

* * *

The Witness: And I believe that is Petitioner's Exhibit HHH.

Q.71: (By Mr. Lyon): Where was this well that you spoke of, Mr. Wright?

* * *

(Deposition of Kenneth A. Wright.)

The Witness: This scratcher was obtained from a casing in a—which had been hauled from a well into a small yard adjacent to the operations down there.

Q.72: (By Mr. Lyon): What was the name of the operations?

* * *

The Witness: It is my recollection at this moment that it belonged to the General Petroleum Corporation's yard. [2644-344]

Q.73: (By Mr. Lyon): Where?

* * *

The Witness: In the Wilmington-Long Beach oil field area.

Q.74: (By Mr. Lyon): Now, did you ascertain how the scratcher in these photographs, Exhibits 6Z-1 and 6Z-2, had been used, if they were, by the General Petroleum Company?

* * *

The Witness: Assuming it was the General Petroleum, and that is my present recollection, the liner had been pulled—or this particular casing had been pulled from a well.

Q.75: (By Mr. Lyon): And how deep was the well?

* * *

Q.76: (By Mr. Lyon): If you remember.

A. I don't recall the depth and I am not certain whether I determined the depth.

(Deposition of Kenneth A. Wright.)

Q.77: Well, what is the depth of wells in that area?

* * *

The Witness: To my knowledge, the wells vary in depth from the shallowest, 2400 feet, or approximately that figure, to 6,000 feet.

Q.78: (By Mr. Lyon): They don't have wells in that area [2644-345] of a depth of a thousand feet?

* * *

The Witness: Not to my knowledge.

Q.79: (By Mr. Lyon): I note in the photograph, Exhibit 6Z-2, that substantially all of the wires are pulled from the ring collar and that some of the wires are twisted through the holes of the collar. Is that the condition of the scratcher when you found it in this yard, Mr. Wright?

* * *

The Witness: With the exception that two loose wires on the inside, which can be more easily seen in the plan view, those are the wires which were picked up by me which fell out of the collar when it was cut in two and I took them and placed them in that position when the photograph was taken.

Q.80: (By Mr. Lyon): Were there any other wires there that could have been associated at any time with the scratcher in these photographs, Exhibits 6Z-1 and 6Z-2?

* * *

The Witness: Not that I can recall at this time.

Q.81: (By Mr. Lyon): As pictured in the

(Deposition of Kenneth A. Wright.)

photographs, Petitioner's Exhibits 6Z-1 and 6Z-2, was there ever at any time any change made in any of the wires or the collar from the time that you found the collar and the wires in this yard at the General Petroleum Company, as you [2644-346] have testified?

* * *

The Witness: I made no alteration whatsoever in any of the wires in any respect thereto except as I have testified, and what I mean by that is when these two individual wires which are entirely loose from the segments of the collar were taken by me to the photographer and placed in that position, as so shown by the photographs.

Q.83: (By Mr. Lyon): Did the collars or wires leave your possession at any time after you found them in the yard of the General Petroleum until you delivered them to the [2644-347] photographer?

* * *

The Witness: I delivered them to the photographer myself and no one else had anything else to do with them.

Q.84: Does the picture portray exactly the condition of the scratcher collar and wires as you found them in the General Petroleum Company yard?

* * *

The Witness: They do, with the exception——

* * *

The Witness: ——of these two loose wires which I have mentioned heretofore.

(Deposition of Kenneth A. Wright.)

Mr. Lyon: I will offer in evidence at this time the two photographs Petitioner's Exhibits 6Z-1 and 6Z-2.

* * *

Q.85: (By Mr. Lyon): Mr. Wright, were you at any time advised of the abandonment of the Hall application Serial No. 388891 prior to the receipt by you of the letter from the Patent Office, Exhibit 6W?

* * *

The Witness: I was not.

Q.86: (By Mr. Lyon): Were you advised at any time prior [2644-348] to August 22, 1946, of the filing of the application Serial No. 627013?

* * *

The Witness: I was not.

Q.87: (By Mr. Lyon): Were you ever consulted as to what should be in the application Serial No. 627013?

* * *

The Witness: I was not.

Q.88: (By Mr. Lyon): Were you ever advised at any time with respect to any of the prosecutions of the application Serial No. 388891 from the time of this meeting with Mr. Hall on September 15, 1944, to and including the advice that you received from the Patent Office of the abandonment of that application, and that advice being as shown in Petitioner's Exhibit 6W?

* * *

The Witness: I had no communication or advice

(Deposition of Kenneth A. Wright.)

whatsoever or information about that application during those periods, during that period.

Q.89: (By Mr. Lyon): Were you at any time advised with respect to the solicitation of any claim or claims in either of the applications 627013 or 55619 by Mr. Scofield or anyone acting on behalf of Mr. Hall?

* * *

The Witness: I was not. [2644-349]

* * *

Q.90: (By Mr. Lyon): Do you have any knowledge, Mr. Wright, as to when the claims purported to be claims 23, 24, and 31 of the Hall application Serial No. 55619 were solicited in that application or were placed in that application Serial No. 55619?

* * *

The Witness: Would you mind rereading the question, Mac?

(Question read by the reporter.)

The Witness: I am a little uncertain as to what you mean, Mr. Lyon.

Q.88: (By Mr. Lyon): Do you know whether the claims were originally included in the application Serial No. 55619 as that application was filed?

A. I have no knowledge when those claims were inserted in that application.

Q.89: Do you know whether or not those claims

(Deposition of Kenneth A. Wright.)

were inserted in that application before January 27, 1950?

* * *

The Witness: As I stated before, I don't know when they were inserted in that application.

Q.90: (By Mr. Lyon): Were you at any time asked or consulted with respect to the solicitation of the Claims 23, 24, and 31 in the application Serial No. 55619? [2644-350]

* * *

The Witness: I was never advised or consulted in any manner about those claims, and I mean by "advised" prior to their insertion.

Q.91: (By Mr. Lyon): Were you ever advised with respect to the abandonment of the application Serial No. 627013?

* * *

The Witness: You mean prior to its abandonment?

Q.92: (By Mr. Lyon): Prior to its abandonment.

A. No, I was not advised at any time.

Q. 93: Were you advised it was going to be abandoned? A. No, I was not.

Q.94: Were you asked whether it should be abandoned?

* * *

The Witness: No, I was not.

Q.95: (By Mr. Lyon): You were present and heard testimony of Mr. Hall in Houston——

Mr. Scofield: When?

(Deposition of Kenneth A. Wright.)

Q.96: (By Mr. Lyon): —in this matter?

A. I did.

Q.97: Did you at any time prior to hearing Mr. Hall's testimony understand that Mr. Hall thought that the tangential scratcher was no good? [2644-351]

* * *

The Witness: Will you please read the question, Mr. McClure.

(Question read by the reporter.)

The Witness: I thought Mr. Hall thought that the tangential feature was the all-important feature.

Q.98: (By Mr. Lyon): By that you mean prior to hearing his testimony?

* * *

The Witness: Prior to hearing his testimony.

Mr. Lyon: I think we will take a ten-minute recess at this time.

(A short recess was here taken.)

Q.99: (By Mr. Lyon): Mr. Wright, state whether or not you have observed the tracings made by the end of scratcher wires during the movement inside a steel casing under different conditions?

A. I have.

Q.100: Have you at any time with any scratcher ever seen under any test or under any operation a scratcher produce a spiral trace?

(Deposition of Kenneth A. Wright.)

A. I have never seen a scratcher produce a [2644-352] spiral trace.

Q.101: Do you recall when Mr. Decker was employed by B & W?

A. It is my recollection——

Mr. Scofield: That is objected to as immaterial and improper rebuttal.

The Witness: It is my recollection that B & W employed Mr. Decker about March of 1947.

Q.102: (By Mr. Lyon): Is Mr. Decker a patent lawyer? A. He was not; he is not.

Q.103: In the making of the wall cleaning guide and in the making of the first of the scratchers of that type, which as far as I understand it are those which are pictorially illustrated in the Jones & Berdine report did you have any tools, dies, or jigs made for the formations of those scratchers?

A. I am not certain which scratchers you are referring to.

Q.104: The three shown in the Jones—I mean those shown in the three different photographs, Figures 14, 18 and 26 in the Jones & Berdine report.

A. At the time these scratchers were made which are shown in the Jones & Berdine report, there was a die of a nature to form the clips, such as are seen on this device——

Q.105: Exhibit M? [2644-353]

A. ——Exhibit M, and there was also in existence at that time, I believe, according to my recollection, a die of some nature to make wires for

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one other size of scratcher other than 3½, and there were some fixtures which would be equally adaptable to making diameters of bands of more than one particular diameter, but as far as the actual bending of the wires for the 3½-inch scratcher, a simple jig was devised so that they would have a uniform pattern. To that extent, it was hand-operated, inasmuch as sixty or more of the wires had to be formed, and so they were handmade. As far as the forming of the wires, which includes the inner end, the arcuate section, the curved section with the radius which leaves the periphery and extends outwardly thereafter——

Q.106: I did not just get that. Just read me that last part of the answer.

(The last part of the answer was read by the reporter.)

The Witness: Those were made by a simple fixture or jig, whichever you elect to call it.

Mr. Scofield: You had better read the whole question and answer, if you will, please.

The Witness: For the 3½ inch scratcher supplied for the Jones test.

(The record was read by the [2644-354] reporter.)

Q.107: (By Mr. Lyon): Do I understand your testimony to be that this simple jig also formed the free ends of the scratcher wires, and by "free ends" I mean the ends of the wires beyond the

(Deposition of Kenneth A. Wright.)

are curve end of the wire where the wire passes out from under the clip?

* * *

Q.108: (By Mr. Lyon): Do you understand my definition of free end of the wire, Mr. Wright?

A. I believe I do and I will ask you further, are you referring to this bend where I have placed my finger?

Q.109: Yes, is there any definite die or jig for forming that bend?

A. No, there was not.

Q.110: Was there any tool, die or jig formed for forming the bend in the free ends of the wires as they are shown in either Figures 14 or 18 of the Jones & Berdine report?

* * *

The Witness: According to my knowledge there was not.

Q.111: (By Mr. Lyon): How were these bends in the ends of the wires formed——

* * *

Q.112: (By Mr. Lyon): ——in the scratchers of the Jones [2644-355] & Berdine report as shown in Figures 14, 18 and 26?

* * *

The Witness: According to my recollection they were formed out at the Domiguez Hill operation with pliers.

(Deposition of Kenneth A. Wright.)

Q.113: (By Mr. Lyon): Did you take part in that formation?

* * *

The Witness: In part of them I did.

Q.114: (By Mr. Lyon): Were the same dies used in forming the clips for Exhibit M that were used for the formation of the clips of the scratchers in Figures 14, 18 and 26?

* * *

The Witness: That I cannot say, for the reason that the time interval may have caused one to be worn out and another replaced, but it is identical in every respect.

Q.115: (By Mr. Lyon): Was there any difference in the way that the wires are held to the scratcher—

* * *

Q.116: (By Mr. Lyon): —collar or on the outer periphery of the scratcher collar on Exhibit M than was true of the scratchers in Figures 14, 18 and 26?

* * *

The Witness: None whatsoever.

Q.117: (By Mr. Lyon): I note in the scratcher wires on Exhibit M that there is a certain amount of freedom or flexibility of the wires. Was or was that not [2644-356] true of the scratchers of Figures 14, 18 and 26 of the Jones & Berdine report?

* * *

(Deposition of Kenneth A. Wright.)

The Witness: The wires of the scratchers in the Jones & Berdine tests were flexibly mounted and free to flex around the periphery beneath the clips.

Q.118: (By Mr. Lyon): Was that different in any way from the manner in which they are mounted in Exhibit M?

* * *

The Witness: None whatsoever.

Q.119: (By Mr. Lyon): Mr. Wright, have you observed B & W's scratchers under actual operation, being run into a well?

A. Yes, I have, with the limitation that observations stops, visual observation that is, when they pass into the casing of the well and are immersed in the drilling fluid of the well.

Q.120: You have been on actual operations with B & W scratchers on many occasions, have you not?

A. I have, and which scratchers are you referring to?

Q.121: Well, all three of them.

A. I have been present when all——

Q.122: That is, the Nu-Coil, the Multi-Flex and the wall cleaning guide? [2644-357]

A. That is correct.

Q.123: And you have also had considerable experience on drilling rigs prior to your going into the business of manufacturing scratchers, have you not? A. In my opinion, I have.

Q.124: In fact, since you left college you ex-

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pended all of your working hours in the petroleum industry, haven't you? A. That is correct.

Q.125: How old are you now?

A. 55 years old.

Q.126: When did you leave college?

A. 1921, June of that year.

Q.127: There has been considerable said in this case——

A. May I make an exception, that I have done some geological work in Australia, at which time I was not actually drilling a well or close to the actual operations of drilling a well.

Q.128: For how long a period was that?

A. Somewhere between two and three years. I don't recall the period.

Q.129: There has been considerable testimony given here with respect to casing rotation. Will you state your observations and experiences with respect to casing rotation, both with and without scratchers, centralizers or [2644-358] scratchers and centralizers?

A. Well, I will respond to that question by first asking you: You do not mean the rotation of casing during the cementing by the rotation method and——

Q.130: No.

A. ——and accompanied by the use of rotary scratchers; is that correct?

Q.131: That is correct, eliminate the rotary scratchers and rotation method of cementing.

(Deposition of Kenneth A. Wright.)

A. It has been my observation through actually being present on the rig floor on a great number of wells that every string of drill pipe or casing which is run into either the drill pipe or casing, which can be in some cases a quarter of a turn throughout the lowering of an 80-foot stand or a complete revolution, followed later by a stand or two with practically no observable rotation, followed thereafter by other rotation, maybe in an opposite direction, and so on until bottom is reached. The same holds true for casing lowered into the well, and I will identify that particular casing as being bare of any additional equipment other than the casing shoe or float shoe, which is customary in practically all cement operations. When scratchers and/or centralizers are mounted on the casing this same general pattern holds true; the observation is, the angular reversals and the direction [2644-359] of the particular course of the well at any particular point influencing this rotational movement of the drill pipe or casing, and that there is no relationship, in my observation, between the presence of scratchers on the casing with this rotational movement whatsoever.

Q.132: Has this fact of casing rotation been the subject of any particular development in oil wells, Mr. Wright?

A. I do not quite understand your question, Mr. Lyon.

Q.133: Has the fact of rotation of a string of casing or pipe in being run into or out of a well

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been the subject of any particular development with respect to oil drilling or orientation?

A. Do you have reference to the running of the drill pipe?

Q.134: Casing, pipe casing or drill pipe, any one of the three.

A. I am sorry, I have to repeat I still don't quite understand your question.

Q.135: Well, has the fact of rotation, of pipe rotation, on going into the well, been the subject of any particular development or problem in oil well drilling or oil well surveying, or anything of that character?

A. Well, the course of the bore hole [2644-360] and its deflections have been the subject of study starting many, many years ago, even to the point of going back to 1878. There were people securing patents on attempts to devise devices to survey a bore hole, and the amount of deflection of these rotary-drilled holes was of a nature and an amount that was hard to believe when we in the industry started closer spacing of wells and found that wells of substantial distance apart on the surface communicated with each other, and that made the proof, which is irrefutable, and this was followed by the development of surveying instruments which did accurately survey this course, and the people then understood more about this problem.

But all of the holes drilled, it was generally conceded, have numerous reversals in any particular course, and it is just the case of holding it to a

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stated minimum and the operator decides what that minimum shall be and drills his well accordingly. Then the placing of the casing in that well, of course, follows the actual drilling and the rotary observations and the observations of the turning of the casing where it is lowered in are not considered to be anything of—anything unusual or anything more than that in the ordinary course of development of the well.

However, if I understand your question, possibly you might be referring to Mr. Paul's [2644-361] assertions about this movement being induced by the placing of the equipment which he mentions on the casings to be placed in the well. Is that what you were referring to?

Q.136: Well, I was particularly referring to this, Mr. Wright: State whether it is or is not true that the arc with respect to well surveys deals extensively with the problem of orienting the amount of pipe rotation with reference to the survey being made?

A. That is correct. The Anderson survey, which was the original one developed and still the principle method, is predicated on the fact that they carry the orientation into the well, which means the observations in cumulative angular movement throughout the lowering into the well of the instrument. Otherwise than that, the survey would not be accurate.

Q.137: And the surveying art teaches, does it not, that when the survey is made that without such

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orientation and determination of the amount of pipe rotation that a survey of the well cannot be made?

A. That is correct.

Q.138: And that is a survey of rotation of the pipe on which nothing is mounted, is it?

A. There is a survey tool positioned on the lowermost end of the drill pipe which is lowered into the well. That instrument is housed in a casing of the [2644-362] diameter about the size of the lowering end string.

Q.139: Is there anything in that added instrumentality in the casing which would induce a complete rotation?

A. None whatsoever, and it is very expertly engineered.

Q.140: There have been considerable statements made throughout the record with reference to hole irregularity, and by that I mean of the drilled hole, and the so-called enlargements of the hole diameter and in that regard we have made reference to certain well surveys as set forth in the Teplitz report, which is in evidence as Exhibit 5G.

Mr. Scofield: 5 what?

Mr. Lyon: G.

Q.141: Have you made any study at any time of such hole irregularities as shown by such survey, Mr. Wright?

* * *

The Witness: I have observed and been shown by engineers of oil companies considerable numbers

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of caliper surveys and I have observed the one or more which are in the Teplitz report of 1946.

Q.142: (By Mr. Lyon): What is the character and extent of the irregularities which occur in an ordinary oil well, and have you had prepared any chart or diagram or tracing which is illustrative of the intensity of such [2644-363] diameter changes, Mr. Wright?

* * *

The Witness: The actual diameter of the bore hole is an extremely variable thing and will depend upon many, many factors. The best answer which might be applied I think is to take any particular survey and study it and make the observation from it, and I have studied the caliper survey which is seen in the first diagram or first figure, I believe, of the Teplitz report, and if you will place one before me, I will be certain I am talking of the correct one.

* * *

Mr. Lyon: 5G.

Q.143: I hand you the photostatic copy of the Teplitz report, a photostatic copy of which is in evidence as Exhibit 5G, and I ask you to look at this and see if this is the report that you referred to, and the figure that you referred to in that report.

A. The report which I have before me is titled "an Investigation of Oil Well Cementing," the authors being H. A. Teplitz of the Gulf Research & Development Company, and W. E. Halliburton, of

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the Halliburton Oil Well Cementing [2644-364] Company.

This photostat was taken of pages of the Petroleum Engineer Reference Annual for 1946. It is to be noted further that at the bottom of the first column on page 114, where this article starts, is stated the following:

“Presented before Southwestern District, API, Division of Production, Shreveport, Louisiana, May 17-18, 1946.”

Turning to page 116, we find Figure 1, and on the left-hand portion we find the depths recorded in this figure followed by the electric log and then the observations by the authors as to what formations existed, at those depths. There is also a notation with reference to the caliper log dimensions by inches and a vertical dotted line which states “Bit size $9\frac{7}{8}$.”

There is additionally noted on this particular figure the notation: “Perf.” underneath which there is a little symbol indicating what I understand, and the text confirms, that this abbreviation refers to perforations made in the casing cemented in the well, and that these perforations are made between the depths of 9560 and 9574. From this——

Q.144: Just a moment, Mr. Wright, I don't want to interrupt your thought there, but I want to get a little something on the scales of this plitting which is in the [2644-365] figure you are referring to. The vertical scale of this clock is in hundred feet, is it not? A. That is correct.

(Deposition of Kenneth A. Wright.)

Q.145: And the horizontal scale is in five feet—five inches, is it not. No, it is fifteen inches, is it not?

* * *

The Witness: There is present——

* * *

The Witness: Continuing on, I would note that vertical scale is provided in terms of hundreds of feet. The lateral scale with reference to the diameter is provided, and the interval between five inches, ten inches, and fifteen inches is shown so as to provide a reference point, and together with this is the base line previously mentioned as the dotted line referring to the bit size of $9\frac{7}{8}$ inches.

Mr. Scofield: The 5, 10 and 15 inches only has to do with reference to the caliper log?

The Witness: That is my understanding, and it is so noted and indicated in this Figure 1.

Q.146: (By Mr. Lyon): The point that I was making, Mr. Wright, is that each square vertically is made to represent 100 feet and horizontally 15 inches.

A. That is correct. With the Figure No. 1 in this [2644-366] report as a basis for the study, it will be noted that with reference to the bit size used to drill the hole into which subsequently was lowered this instrument known as a caliper survey which provided the observations which are represented by this line shown on this report——

(Deposition of Kenneth A. Wright.)

Q.147: The bit size was what, what typical bit size?

A. The bit size noted here is $9\frac{7}{8}$ inch. Now, it can be noted from this caliper survey that there is a hole approximately 15 inches in diameter, and that there is a hole which might be as low as maybe $9\frac{1}{4}$ inches. Inasmuch as this particular scale is very condensed, it would make a more accurate determination difficult, and because of that I have had this particular Figure 1 enlarged by photostatic means to an intermediate size, and after having arrived at this intermediate size have selected what I term to be a critical portion of this particular well, and it contains the—or is directed to that particular area above where the perforations were made and include that area or vertical section where the perforations were made. [2644-367]

* * *

Q.148: (By Mr. Lyon): Go ahead, Mr. Wright.

A. At this particular stage of the enlargements it is possible to do more careful work in terms of providing a center line through this black——

Mr. Lyon: Just before we get further, so that this matter will be of record, I will ask that the intermediate enlargement be marked for identification as the Petitioner's Exhibit 7A.

Mr. Scofield: That is a blow-up of Fig. 1.

The Witness: That is correct.

(The intermediate enlargement referred to was marked by the Notary Public as Peti-

(Deposition of Kenneth A. Wright.)

tioner's Exhibit 7A for identification, and made a part of this deposition.)

Mr. Lyon: And I will ask that the greater enlargement Mr. Wright has produced be marked as Petitioner's Exhibit 7B for identification.

(Enlargement referred to was marked by the Notary Public as Petitioner's Exhibit 7B for identification and [2644-368] made a part of this deposition.)

Mr. Scofield: What is that, the caliper section of 95-9600?

The Witness: It is the area immediately below——

Mr. Lyon: It is the caliper section, yes.

The Witness: Immediately below 9400, and extending beyond the point 9754, those figures representing its depth.

Mr. Lyon: I will offer these two exhibits at this time for the purpose of illustrating the witness' testimony.

* * *

The Witness: As previously stated, the purpose of this was to provide a basis from which to accurately depict by graphic means or chart just what angles exist in the profile of a well wall such as, and in particular this particular well, and inasmuch as this particular report and this has been featured in this series of depositions it was thought to be as good an example as might be provided to show

(Deposition of Kenneth A. Wright.)

what angles do exist in a well which might be, for the purpose of this discussion, called "typical," and I mean by "angles," I mean in the vertical section. Now, off the record. [2644-369]

* * *

Q.149: Last evening, Mr. Wright, you were testifying concerning the variations of diameter of a well bore and I believe had made reference to Figure 1 of the Teplitz report, and had made certain statements with reference to that figure and the development of the contours as shown in that figure.

You have before you now a machinery device which I will ask the reporter to mark as Petitioner's Exhibit 7C for identification.

* * *

Mr. Lyon: In this machine there is a tape, which I believe is about 160 feet long or 140 feet long, and I will ask that that tape also be marked [2644-371] separately as Petitioner's Exhibit 7D for identification and so that we may know where the marking is, I will run this thing until I find a point to mark the tape. Mark the tape at the depth indicating 9470 feet, which I have run to the observation position in the machine.

(Tape referred to was marked by the Notary Public as Petitioner's Exhibit 7D for identification, and made a part of this deposition.)

Q.150: (By Mr. Lyon): What is this machine

(Deposition of Kenneth A. Wright.)

or device and this tape which have been marked for identification as Exhibit 7C and 7D, Mr. Wright?

A. This machine, which was built under my supervision and instruction, is a device with spools at either end to which are attached handles—wheels, which are provided with handles. They are at opposite ends of the framework of the machine, and on these spools is placed a broad tape of paper.

Q.151: That tape is Petitioner's Exhibit 7D?

A. That is correct, and the paper is of a length and of a width to duplicate by exact scale what may be viewed in the vertical section of the hole found in Exhibit 1—correction, Figure 1 of the Teplitz & Hassebroek report; that is to say, these—strike “these”—this graph found on the left-hand column of Figure 1 [2644-372] had a portion which I mentioned yesterday selected and reproduced to true scale, just as it would be in the well itself.

Q.152: When you refer to this report, the Teplitz report, it might be helpful in the record if you would at the same time give it the exhibit number, which is 5G, Mr. Wright.

A. I will attempt to hereafter. I believe I stated yesterday that the portion selected to reproduce at this true to scale was that portion starting about 9430 and extending to 9600. I will state additionally that in that 170 feet between those two depths is found a diameter equal to the maximum found in the entire log, which is shown in that Figure 1 report, Figure 1 5G report, and contains

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the critical section which is that vertical section which the operator selected to perforate the casing after the cementation in order to complete an oil well.

So, in developing this machine and the tape, it starts with the observation that in the left-hand part of Figure 1 there is observed, as I stated yesterday, the section by inches, 5, 10 and 15, so that true readings in terms of inches or fractions thereof can be noted. Now, I have provided or placed in your custody yesterday two intermediate enlargements, and I would like for them to be given me at this time. [2644-373]

Mr. Scofield: You might indicate what that 5, 10 and 15 inches shows, Mr. Wright, just to simplify the cross-examination.

The Witness: Were these in your custody last night, Mr. Scofield?

Mr. Scofield: I haven't seen them.

The Witness: As previously stated, this part of the figure states at the top, 5, 10 and 15 inches, and is to provide the reader, or anyone who cares to make observations, with a method or reference with which to determine what the true diameter of the well would be at any point in the depth he might select to make that observation. The observed section, that is, in its lateral plane of reference, is that part of it from 5 to 10 inches, so by progressive upward photostating, I have provided this chart, Petitioner's Exhibit 7B, which by photostatic proc-

(Deposition of Kenneth A. Wright.)

esses provides the black line running vertically beneath the Figure "5" and the Figure "15" as a true five inches by actual measurement on this exhibit. 7B as five linear inches. Inasmuch as the "5" to "15" represented 10 inches, then half thereof would be a radius measurement in that the relationship between diameter and radius is two to one, or the radius is one-half of the diameter.

Then, by taking the $9\frac{7}{8}$ -inch line which is provided in the graph, which is the size—which is [2644-374] the point at which the bit would provide a constant vertical line if it were drilled to the true diameter of the bit, and using that as a reference line, it is possible to take observations by straight linear measurements on this Exhibit 7B and plot that onto this tape and to provide at the same time on the tape the center line of the hole.

This machine has at the right and left the notation in print "Center Line of Hole." Beneath that is found on either one of these two pieces of cloth tape provided to write on the printing "The Drilled Diameter," which is this $9\frac{7}{8}$ -inch reference point found in these exhibits. That is a purple line. The black line found near it is a transferring onto this tape of the observations made at the various points in the vertical section between the depths 9430 and 9600.

Now, this permits direct reading without any computations whatsoever, and the object of this tape was to permit one to stand at the end, and that

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means either end and roll this tape either upward or downward (indicating) and actually observe the true angles which the profile of the well contains, and at the same time reproduce, as I have stated before, the true dimensions.

Now, it can be seen from this Exhibit 7B that in the area of 9450 that the hole approximates just under [2644-375] 15 inches in diameter, which would be a radius of just less than $7\frac{1}{2}$ inches, so if we will turn this tape to the area about 9450, in that region (indicating)—slightly above it is my estimate—it can be seen that this scale reads $7\text{-}7/16$ ths. Twice that would be $14\frac{7}{8}$, and if we take, as I have, the center line, which is this broad black line, for the reference point, then you can see that there is within the limits of accuracy provided by these exhibits a true reading of the diameter existing at that point.

Then if we further observe that in the area adjacent to 9500 feet the diameter of the hole changes from less than bit diameter to greater than bit diameter, we will test the machine for accuracy. It will be noted that there is a point above 9500 where it goes from greater diameter to lesser diameter, as well.

I am now rolling the tape in what might be termed to a greater depth in the well, and if Mr. Scofield cares to, he can stand——

Q.153: (By Mr. Lyon): You are rolling the tape from right to left?

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A. At 9480 it is observed that the true edge of the hole is approaching the line of bit diameter. It has crossed it in the area just below where the 9480 region goes to a point, proving that the observed diameter [2644-376] is less than bit diameter.

Q.154: By how much is it less than bit diameter?

A. The observed radius is slightly under $\frac{1}{8}$ inch, showing that the diameter of the hole is approximately $\frac{1}{4}$ inch less than the——

Q.155: Referring to the Teplitz report——

* * *

Q.156: (By Mr. Lyon): Mr. Wright, with reference to this smaller diameter section, is it possible to determine from the Figure 1 of the Teplitz report, Exhibit 5G, the character of the hole at this point of smaller diameter?

* * *

The Witness: I would like to have you more properly define what you mean by "character," or shall I presume you are referring to observations to include bit diameter and the electrical [2644-377] log? A. Is that the——

* * *

The Witness: ——the substance of your question?

Q.159: (By Mr. Lyon): I mean, frankly, is there anything which indicates what the strata of

(Deposition of Kenneth A. Wright.)

the hole is at the point where the hole is smaller in diameter than the bit you have just referred to?

* * *

The Witness: Figure 1 of Exhibit 5G contains the electrical log and the author of that paper's own decision or conclusion of what formations were existent at that point or in the vertical section of the well.

Q.160: (By Mr. Lyon): What was the well formation at the point that you have just discussed, that is, the neighborhood of 9480 to 9500 feet?

* * *

The Witness: It is possible, and I do read from the Figure 1 that that particular section is indicated as starting with sandy shale and passing into sand, and the sand continues for a small amount of vertical distance below the 9500 foot mark, or that is as reasonably close as you can determine from the small graphs.

Q.161: (By Mr. Lyon): Is that a porous structure? [2644-378]

* * *

The Witness: That is a permeable strata upon which filter cake is deposited.

Q.162: (By Mr. Lyon): Then what is the material which has caused the decrease in diameter of the hole at the point under discussion?

* * *

The Witness: It can only reasonably be con-

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cluded that it is most likely a result of filtration of the fluid into the permeable strata, leaving a deposit of filter cake on its sides, and as the continued deposition takes place the filter cake becomes thicker, not thicker in viscosity but thicker in its dimension.

Q.163: (By Mr. Lyon): Where sand is indicated, is there any particular meaning of sand in the petroleum industry?

* * *

The Witness: Yes, a large part of the reservoir rocks of the world, in terms all related to the oil field, find their productive section in the sands. There are gas sands, water sands and oil sands present in a great number of wells.

Q.164: (By Mr. Lyon): Now, in this chart that you have produced, Exhibit 7D, there is a further section that I desire to point out at this time, and that is the section which is somewhere in the neighborhood of 9560 [2644-379] feet, and in that area there is indicated on this Figure 1 the word "p-e-r-f," with a period inside of the channel. What does that indicate?

* * *

The Witness: I believe I did refer to this particular section, and stated that "p-e-r-f" is an abbreviation for "perforation," and if you would like me to I will find in the text that Exhibit 5G the statement that perforations were made in the casing at this particular point.

(Deposition of Kenneth A. Wright.)

Q.165: (By Mr. Lyon): Will you do that, and the text you are referring to is the text of Exhibit 5G?

A. That is correct. In compliance with your request, Mr. Lyon, I find on page 114 of Exhibit 5G in the paragraph No. 2—strike that—column No. 2, in the paragraph which contains the Figure 1 in parentheses, and midway down in that paragraph the following: “The casing was then perforated from 9560 to 9574.” In column 3 of that same page, starting with the second paragraph found in that column, I find the following: “Figure 1 shows some of the logs made during the test. A section of the surveys in that part of the hole which is of minor interest has been removed to conserve space. Also for condensation, the original gamma ray log has been omitted, and the differentials between it and the radioactivity logs [2644-380] obtained after casing cementation and the squeeze jobs are presented reduced to one-tenth horizontal scale.” That is the end of the quotation from the Exhibit 5G, so that I can find confirmation in the text of what I have stated heretofore.

Q.166: What was the character of the formation opposite this point of perforation that you have just referred to?

* * *

The Witness: It can be found by reading directly from the Figure 1 that the authors decided that there was sand at that section of the well op-

(Deposition of Kenneth A. Wright.)

posite the area or vertical section where they made the perforations.

Q.167: (By Mr. Lyon): Was there or was there not also shown on that chart a decrease in diameter in well bore at this point?

* * *

The Witness: That is correct, and I would like to add further that it is indicated that it was either oil or gas sand at the particular section where they made the perforations.

Q.168: (By Mr. Lyon): Looking at your enlargement Exhibit 7B——

A. May I interrupt you for the moment?

Q.169: Yes. [2644-381]

A. It should be noted that reading after the sentence which determined the preparation section that the wording is as follows: "and when the well was produced it was found to have an abnormally high gas-oil ratio for this particular sand," and I wish that read into the record to confirm the observation that it was a productive section of the well.

Q.170: Mr. Wright, can you tell from Exhibit 7B the point of quickest change in well bore diameter——

* * *

Q.171: (By Mr. Lyon): ——as shown by this caliper survey?

A. Well, I would say there are two or three places in the vertical section where rapid changes

(Deposition of Kenneth A. Wright.)

occur, and the enlarged—greatly enlarged diameter above approximately 9480 had abrupt changes from maximum diameter to below the bit diameter and——

Q.172: You said “about 9480” was one such point? A. I said above that point.

* * *

Q.173: (By Mr. Lyon): You said “above that point”? Will you point out from this chart Exhibit 7D that point just above 9480? Just roll it to that point.

A. In the area of 9480, as previously stated, the diameter changes from beneath or below bit diameter [2644-382] to greater than bit diameter.

Q.174: Now, I want to get this point, and I am putting a finger on a point which I will mark on Exhibit 7B with the word “point,” and I want you to find that point on this Exhibit 7D?

A. I will make this observation, that starting with this Exhibit 5G and photographing up and having a tape this long, you cannot find an exact foot mark. It is, as I have qualified it each time, in the area about 9480 feet.

Q.175: There is a point of maximum deviation——

A. Which would be, according to this, in this area here.

Mr. Scofield: Let the record show——

Q.176: (By Mr. Lyon): Closest to the line somewhere.

(Deposition of Kenneth A. Wright.)

Mr. Scofield: Let the record indicate that counsel is pointing to the tape which is in the machine.

Mr. Lyon: That is right.

Q.177: Now, in order that we may understand this tape, there are major vertical lines in the tape, which I believe are 1 inch apart, are they not?

A. That is correct.

* * *

Mr. Lyon: What relationship does that 1 inch have to the actual plotting on this tape, is that an inch or is that a scaled inch? [2644-383]

The Witness: That is true to scale. The observations here will provide you with true readings.

Q.178: (By Mr. Lyon): The point on the tape which is in front of us shows changes of maximum deviation from the drilled diameter, and as I read it is—— A. Somewhere in this area.

Q.179: Is somewhere in this area?

A. Please don't mark it.

Q.180: Yes, I will mark it. That I have marked with a bracket and also with the word "point."

Is it or is it not approximately the same as the position that I marked "point" in Exhibit 7B?

A. I believe it is.

* * *

The Witness: I believe it is, but I will confirm it. I believe it is, and your question is the diameter at that point?

Q.181. (By Mr. Lyon): What is the diameter at that point?

* * *

(Deposition of Kenneth A. Wright.)

The Witness: The observation made is that the radius at that point is slightly below $6\frac{1}{2}$, indicating at diameter of just under 13 inches.

Q.182: (By Mr. Lyon): In the ten feet of this tape from [2644-384] 9480 back to 9470 there is a wall diameter deviation of how much?

* * *

Q.183: (By Mr. Lyon): Just measure between 9480 and 9470.

A. Mr. Lyon, I would point out to you that in this vertical scale here you are only approximating the depths, and it is your contention then that that is 9465 or some——

Q.184: I don't know what that point is. I didn't get near that point. That is a point of deviation, another point of maximum deviation. I just asked you to measure the well diameter on this chart at 9480.

* * *

The Witness: At 9480?

Q.185: (By Mr. Lyon): Yes.

The Witness: The observed diameter from 7C is that at 9480 a radius exists of $5\frac{3}{4}$ inches—no, it is about a $16/32$ nd below that, which would make a diameter of about—of twice that figure.

Q.186: (By Mr. Lyon): Which is approximately $11\frac{1}{2}$ inches, is that correct?

A. That is correct.

Q.187: Now, go back to 9470 and make the same measurement for me. [2644-385]

* * *

(Deposition of Kenneth A. Wright.)

The Witness: At 9470 the observed diameter is just below $5\frac{1}{2}$ inches by at least a 32nd.

Q.188: (By Mr. Lyon): So that is 11 inches, approximately? A. That is correct.

Q.189: So that between the point of 9470 and 9480 the deviation in the well diameter was from a minimum of 11 inches to a maximum of 13 inches and back to a little less than——

A. A little less than 11 inches.

Q.190: A little less than $11\frac{1}{2}$ inches?

* * *

The Witness: Twice $5\frac{1}{2}$ is 11.

Q.191: (By Mr. Lyon): Yes, but twice $5\frac{3}{4}$ at the other end was a little less than $11\frac{1}{2}$, so there was a maximum deviation in that 10 feet of well of approximately an inch and a half, is that correct?

A. Approximately, that is correct, yes.

Q.192: And is that, according to your observation, a fair illustration of well bore diameter deviation, Mr. Wright?

* * *

The Witness: Well, my reply to that would be that I have seen a great number of caliper logs and there is extreme difficulty in ever determining any individual [2644-386] pattern. It takes several diameters in any one field to establish even an average pattern.

Q.193: (By Mr. Lyon): I am not asking you for a pattern; I am asking you, is this a typical

(Deposition of Kenneth A. Wright.)

magnitude deviation in a well bore as you have observed them?

* * *

The Witness: That amount of deviation can be found in a great number of wells.

Q.194: (By Mr. Lyon): Well, is that typical of the amount of deviation?

* * *

The Witness: If it is found in a great number of wells, it is my conclusion it is typical.

Q.195: (By Mr. Lyon): Have you any further observations that you desire to make with reference to Exhibits 7C and 7D?

* * *

The Witness: I don't believe I placed on the record all that might be said for the diameters existent as observed by the hole caliper device in the area from 9560 to 9574.

Q.196: (By Mr. Lyon): All right, if you have something further to say with respect to that, why, do so. [2644-387]

* * *

The Witness: I have rolled the tape to where the depth 9560 is before me and I will make an observation of the recorded diameter as indicated by the hole caliper instrument at that point. As close as can be read, the radius is $4\frac{3}{4}$ inches and twice that is the diameter which is recorded. Turning the tape further to 9570, the observed radius is about a thirty-second under $4\frac{3}{4}$ inches and therefore the

(Deposition of Kenneth A. Wright.)

diameter existent at that point would be twice that.

At 9574, which is the point opposite the lowermost perforation previously mentioned, the observed diameter is 1/16th over $4\frac{3}{4}$ inches, and twice that would be the diameter existent at that point as observed by the device called the hole caliper device.

I believe at one time I made reference to the purpose of this machine, which is for the most part to provide a visual demonstration or exhibit of the actual profile of the well to test for the theory of obstructions and the relative diameters existent over that vertical span. I believe that covers most of the observations.

Mr. Lyon: I will offer in evidence at this time for the purpose of illustrating the witness' testimony, Exhibits 7C and 7D. [2644-388]

* * *

Q.197: (By Mr. Lyon): Mr. Wright, are you a Registered Professional Engineer of the State of California?

A. I am a Registered Professional Petroleum Engineer of the State of California.

Q.198: Your State of California registration card being 11789, is that correct?

* * *

The Witness: On my certificate, as supplied me annually by that Department of the State of California, is observed the No. 11789, the abbreviation "P.E.," meaning Petroleum Engineer, and after

(Deposition of Kenneth A. Wright.)

that the No. 660, which indicates that in this particular section of professional engineering I am No. 660.

Q.199: Mr. Wright, there has been some question in this proceeding with reference to the proper gauge of the wire used in these scratchers. In what range of wire sizes do you know that there are scratchers that are now being used?

* * *

The Witness: In our company, that is to say B & W, we have used 14-gauge wire, and I would make the observation that Mr. Hall for a short period—and a very short period, according to my understanding—used 15-gauge and then went to 14-gauge. There is today on the market [2644-389] a scratcher made by another company, a manufacturer who——

Q.200: (By Mr. Lyon): What manufacturer?

A. Baker Oil Tool, Incorporated's scratcher, having a smaller wire, and it is my recollection that the wires are 16-gauge, which would have a thickness or diameter of about 62 thousandths of an inch.

* * *

Q.201: (By Mr. Lyon): Is the Baker scratcher an inside- or outside-mounted wire scratcher?

* * *

The Witness: It is my observation that the wires are fastened or secured on the inside of the collar.

Q.202: (By Mr. Lyon): Had you seen the scratcher of that type before January 27, 1950?

* * *

(Deposition of Kenneth A. Wright.)

The Witness: My present recollection is that I had.

Q.203: (By Mr. Lyon): Where?

A. In the Baker Oil Tool Company's shop in Huntington Park.

Q.204: Was that scratcher of the inside-mounted type? A. That is correct. [2644-390]

* * *

Q.205: (By Mr. Lyon): We have the Baker scratcher here. How did the scratcher which you saw at the Baker Oil Tool Company's shop before January 27, 1950, compare with the scratcher which you have here in the room?

* * *

The Witness: If you will place the same scratcher before me I will make the observations.

Mr. Lyon: The pin fell out. Here is the missing pin.

The Witness: Is there a question before me?

Q.206: (By Mr. Lyon): Yes. How did the one that you saw before January 27, 1950, compare with this scratcher?

* * *

The Witness: It is my recollection that it is identical. There might have been a slight difference in the length of the wires, but otherwise it appears to me to be identical.

Mr. Lyon: For the purpose of illustrating the witness' testimony, I will offer in evidence the Baker

(Deposition of Kenneth A. Wright.)

scratcher as Petitioner's exhibit next in [2644-391] order.

* * *

A. It is my present recollection that the hinge structure was a little bit different.

Q.208: In the one you saw before January 27, 1950, as compared to Exhibit 7E, is that what you mean? A. That is correct.

* * *

Q.209: (By Mr. Lyon): In Exhibit 7E, there are coil springs formed in the wires?

A. That is correct.

Q.210: State whether or not those coil springs are inside the collar? A. They are.

* * *

Q.211: (By Mr. Lyon): Do the wire fingers all extend out through holes on the collar? [2644-392]

* * *

The Witness: May I make the notation that I did not reply to your previous question because Mr. Scofield introduced an objection and interfered?

Q.212: (By Mr. Lyon): Pardon me, I thought you did. Answer both of them, then.

A. It is my observation that there are coil springs in these wires and that the wires extend through holes, and I am speaking of the wire fingers.

Q.213: And the coil springs are mounted inside the collar, are they?

* * *

(Deposition of Kenneth A. Wright.)

The Witness: That is correct.

Q.214: (By Mr. Lyon): State whether or not the coil springs are housed in a deformation of the collar?

* * *

The Witness: The wires are positioned in corrugations in the collar and the corrugations make what might be termed an annular ring.

Q.214: (By Mr. Lyon): In these respects is this scratcher the same as the one that you saw prior to January 27, 1950?

* * *

The Witness: According to my present recollection, it is the same, with the exceptions that I have previously stated. [2644-393]

Q.215: (By Mr. Lyon): You were present and heard the testimony of Mr. Barkis with reference to the rotation of these scratchers, is that correct, Mr. Wright?

A. I was present when he testified in that respect.

Q.216. Do you agree entirely with Mr. Barkis' statement with reference to the rotation of the scratchers?

* * *

The Witness: I do.

Mr. Lyon: We will take a recess at this time of ten minutes.

(A ten-minute recess was taken.)

Q.217: (By Mr. Lyon): Mr. Wright, I hand

(Deposition of Kenneth A. Wright.)

you a catalog, bronze covered, of B & W, Incorporated, and ask you if this is one of your catalogs, and if by reference to the back page you can determine the date it was published approximately?

A. The catalog that you have handed to me is a catalog of B & W, Incorporated, and I find on the back cover page the following notation "Made in U.S.A." followed by "20M-1-52," indicating it was printed in 1952 in the month of January.

Q.218: There is a machine illustrated on the third page in the upper right-hand corner in this catalog. What [2644-394] is that machine?

A. On page 3 of this catalog in the upper right-hand corner is a cut of a machine which was developed by B & W to test centralizers, and is hydraulically operated, meaning by that the motions or movements are actuated by hydraulic pistons.

Q.219: When was that machine developed?

A. I do not recall whether it was 1950 or 1951, but that is my recollection at present, one of those two years.

Q.220: Is that machine known as a "centralizer testing machine"?

A. That is correct.

Mr. Lyon: I will ask that the catalog which I exhibited to the witness be marked as Petitioner's Exhibit 7F in evidence. [2644-395]

* * *

DEPOSITION OF J. E. HALL, SR.

Jesse E. Hall, Sr., being duly sworn, deposes and says, in answer to interrogatories proposed to him by Thomas E. Scofield, counsel for applicant, as follows:

Direct Examination

Q.1: State your name and residence?

A. J. E. Hall, Sr., 900 Lamar Street, Weatherford, Texas.

Q.2: Are you the Mr. Jess Hall who is the applicant for an application for a patent, No. 67013, that is concerned in this proceeding? A. I am.

Q.3: What is your understanding of this proceeding, Mr. Hall?

A. My understanding of this procedure is a hearing for public use, testimony for public use, also testimony whether I fraudulently filed an oath for patent application.

Q.4: What are the public uses that are involved, as you understand it?

A. Public uses that are involved in this case is uses, first, of the Jones and Berdine Test that was run in the fall of 1939, Dominguez Hills, [2647-1] California.

Q.5: Any other?

A. And the Jones and Berdine paper that was given in the spring meeting of the A.P.I. in Los Angeles, and Thomas Kelley & Sons oil well that was drilled—on the completion of that well, that was finished in January, 1940. I believe that is about all.

(Deposition of J. E. Hall, Sr.)

Q.6: My questions will first be directed to the Kelley well use, and in that connection I would first like to ask you, what was your first knowledge of the Wall Cleaning Guides that were made by B & W, Inc.?

A. My first knowledge was in the month of November, 1939. They were being run in the test in these Jones and Berdine simulated wells in Rosecrans, California. That Dominguez Hills, they are all there close together.

Q.7: Were the scratchers you saw run in the Jones and Berdine tests the scratchers that you saw later offered by B & W, Inc.?

A. In body, yes.

Q.8: What do you mean by "in body"?

A. There was a little bit of a bend later on, that I have no knowledge of ever seeing anything like it, but the scratcher is identically the same scratcher.

Q.9: Did the wires extend from the collar in the scratcher used on the Jones and Berdine tests in [2647-2] the same manner as the wires extend from the collar from scratchers later offered by B & W?

A. They do, they did.

Q.10: How did the wires extend from the collar of the B & W scratchers or wall cleaning guides offered to the trade?

A. They extended at radii to the collar.

Q.11: Was there any bend in them at all?

A. Yes, there was a bend at the outer end, an upward bend or a downward bend. There was a curve bent opposite the parallel of the collar.

(Deposition of J. E. Hall, Sr.)

Q.12: Did you see these scratchers when they were tested, I mean the B & W scratchers which were tested by Jones and Berdine?

A. I saw the scratcher, the end of the bristles in the cement columns where they took the cement away.

Q.13: I would like to have you state, if you will, if you saw any of the B & W advertising which was put out by that organization during the years from 1940 to 1950?

A. Yes, I have tried to keep up with all advertising, particularly magazine advertising.

Q.14: Were you interested in this type of tool as early as 1940? A. I was. [2647-3]

Q.15: Where did you see any of this B & W advertising over that ten-year period from 1940 to 1950?

A. I take almost all of the oil papers, and I made it a general practice to turn to and look at every issue. There were very few issues that I haven't seen.

Q.16: Were you taking these trade magazines as early as 1940? A. Yes, and earlier.

Q.17: What type of well completion equipment were you selling as early as 1940?

Mr. Lyon: That is objected to as leading.

A. Wall cleaning well equipment, cementing.

Q.18: What was it?

A. The earliest equipment I sold, manufactured or developed, rather, was a spiral centralizer with unique features in it for cleaning the well bore.

(Deposition of J. E. Hall, Sr.)

Q.19: Over what period of time did you sell the spiral centralizers, indicating, if you will, the earliest date and down to as late as 1950, if it was that late, or whenever you stopped?

A. The earliest spiral centralizers that was made was during the year of 1935. Then we began to manufacture them in 1936. I sold out to [2647-4] Weatherford Oil Tool in 1948. I continued making and selling them.

Q.20: So you were selling the spiral centralizers as early as 1935, and you continued to sell them as late as——

A. The earliest sales was in '46—'36 and '37. I done a lot of experimenting with them different places before I became satisfied to attempt to put them on the market. They began an active work in '37.

Q.21: And you continued to sell them both to the time that you sold out to Weatherford Oil Tool in '48?

A. Yes, but I had other people manufacturing under the license of them, various different places. That was continued plumb on through until now, about eighteen years.

Q.22: Were you operating as an individual or a company in 1937?

A. I have always operated as an individual.

Q.23: You heard John testify this morning?

A. I heard part of it, yes.

Q.24: Did you hear the Cosco guide mentioned?

A. I don't believe so.

(Deposition of J. E. Hall, Sr.)

Q.25: Did you hear the Houston Pipe Appliance Company mentioned? A. I did. [2647-5]

Q.26: What was that company?

A. That was a fictitious name that was used. The name was adapted and begun with the intention of making a corporation out of it, and it was a trade name, a fictitious name.

Q.27: Was it your company?

A. Well, it could be considered so. I had agreements with one of my boys that was working for Superior Oil Company at that time, was kind of sold on the idea, and he said he would like to work on it, and I started out and put him into it, or assisted him, later run into a lot of patent difficulty, and so at this time I imagine that I taken the situation in hand to try to bring it to a conclusion.

Q.28: Getting back to the B & W advertising from 1940 to 1950, during any of that period did you ever see any advertising of the B & W, Inc., showing a wall cleaning guide with anything but radial bristles or radial wires?

Mr. Lyon: That is objected to as calling for secondary evidence and as incompetent, irrelevant and immaterial.

A. I never have. I have examined all of their literature that I could find, and all of the places that it was sold, to keep up with it, and I have [2647-6] never seen that they advertise nothing but a radial proposition.

Q.29: Attached to some affidavits of Wright and Barkis that were submitted in this matter, there

(Deposition of J. E. Hall, Sr.)

was a drawing, which has a designation on it, "B & W Scratcher, Exhibit I." Did you ever see a scratcher of that character any time during the period between 1940 and 1950?

A. Never did. The only time I ever saw that was in Wright's deposition after he started to making the sidewise bristle scratchers.

Q.30: Did you ever see a wall cleaning guide that was advertised, offered to the trade, by B & W on any occasion, up to the time of the Nucoil scratchers that had wire bristles extending angularly to the collar in the fashion shown in that Exhibit L?

Mr. Lyon: That is objected to as leading.

A. I never did. I only saw one that had a similar sidewise. I think maybe they called it Multiflex. That was some time in '48.

Q.31: Did that have single wire bristles?

A. No, sir, it had a multiplicity of wires.

Q.32: Were you ever involved in any interference with Mr. Wright in the years 1943-44?

A. I was.

Q.33: Was that interference settled?

A. It was. [2647-7]

Q.34: How? A. Settled by agreement.

Q.35: Was that the agreement of September 15, 1944? A. It was.

Q.36: At the time of that agreement, do you know whether Mr. Wright knew what you were selling in the way of scratchers?

Mr. Lyon: That is objected to as calling for a

(Deposition of J. E. Hall, Sr.)

conclusion of the witness, incompetent, irrelevant and immaterial.

A. Yes, he knew what I was selling.

Q.37: Why do you say that?

A. He told me so. He kept up with the various—over the three years that we had been selling it, there had been various comments, and he kept up with it. I gave him one of the catlogs during the agreement.

Q.38: Did you know what B & W was selling—

A. Certainly I did.

Q.39: —in the way of scratchers at the time you made the agreement with Mr. Wright in September, 1944? A. I did.

Q.40: Where was this agreement made?

A. It was made in Mr. Wright's attorney's office in Los Angeles. [2647-8]

Q.41: How long a period of time did the negotiations for settlement cover?

A. Practically all day.

Q.42: It was completed in one day?

A. Completed in one day. I imagine it was getting pretty late when we were through with it.

Q.43: During the negotiations which terminated in the settlement contract, was there any discussion that you recall as to whether you would be barred from getting a valid patent under the interference counts?

Mr. Lyon: That is objected to on the ground that there has been no proper foundation laid.

A. I didn't understand the question.

(Deposition of J. E. Hall, Sr.)

Mr. Lyon: And incompetent, irrelevant and immaterial.

Mr. Scofield: Read the question.

(The reporter read the question.)

Mr. Lyon: Also as leading and suggestive.

A. Yes, by both Mr. Wright and Mr. Maxwell, both pointed out that due to the fact that the Jones and Berdine tests was equivalent to reducing it to a practice, was over a year prior to filing on the claims that were in interference. There were four of them.

Q.44: During these negotiations which terminated in the settlement contract, did Mr. Wright at any time make mention of the Kelley use, the Kelley well use, [2647-9] or this use on McMillan Unit No. 1?

Mr. Lyon: That is objected to as leading and suggestive, and further on the ground that there has been no proper foundation laid for any testimony with respect to any conversation.

A. He did not.

Q.45: Was the Kelley well use mentioned during those negotiations? A. It was not.

Mr. Lyon: Same objection.

Q.46: What application of yours was involved in the application that was settled by that contract?

Mr. Lyon: That is objected to as not the best evidence. The best evidence is the application itself.

A. It was one of my earlier applications that I had written. This particular one, I had it filed.

(Deposition of J. E. Hall, Sr.)

Q.47: Do you know the serial number?

A. Off the record, I could look it up for you. I may say that I don't attempt to try to control those things, as I have to handle many, many papers.

Q.48: I put before you a series of photostats that have been offered here as Exhibits 39A, 39B and 39C. Can you identify any one of those drawings?

Mr. Lyon: That is objected to as calling for secondary evidence. [2647-10]

A. I can identify them all. That serial number you asked for was serial number 388891, filed April 16, 1941.

Q.49: And that was the application that was involved in this interference that was settled?

A. It was. [2647-11]

* * *

Q.52: Who was present at this discussion?

A. There was Mr. Kenneth Wright, Mr. Maxwell, his attorney, a fellow by the name of William McKinley that worked for the National Supply Company of California, Elmer Hall, my son, and myself.

Q.53: Was there a stenographer present?

A. Not that I seen.

Q.54: Did you see her at any time?

A. Yes, along at the last end, but not during none of the discussions.

Q.55: Do you know what her name was?

(Deposition of J. E. Hall, Sr.)

A. No, I don't. Her name is of record, though, perhaps.

Q.56: Where was Maxwell's office located?

A. Well, it was just off the corner of Pershing Square in California. I have forgot what building that is in.

Q.57: On the same street as the Subway Terminal Building is on?

A. Yes, I believe across the street.

Q.58: Was there a copy of this application 388891 at the meeting when you were settling this interference? [2647-12]

A. There certainly was.

Q.59: Now, at any time during this interference proceeding, had either Mr. Wright or Mr. Maxwell mentioned to you the Kelley well use?

Mr. Lyon: That is objected to as leading and suggestive, not a proper method of proof.

A. I talked with Mr. Barkis, Mr. Maxwell and Mr. Wright, and neither of the three of them mentioned anything of the Kelley use.

Q.60: Was Mr. Barkis present at that settlement meeting, that is at the time the interference was settled? A. He was not.

Q.61: When did you have this conversation with Mr. Barkis concerning the interference?

A. Mr. Barkis called me and said he was in Houston, over the telephone. My office was in Weatherford, Texas. And he said that he wouldn't be able to go to California, that he and Kenneth Wright were equal partners, and whatever Kenneth

(Deposition of J. E. Hall, Sr.)

Wright done in this, he was happy to go along with him.

Q.62: When was this phone conversation with respect to the meeting? A. Prior.

Q.63: How long prior? [2647-13]

A. Shortly, some three or four days, something like that.

Q.64: Is that all that was said in the phone conversation with Mr. Barkis?

A. Well, there was the idea that if we had it worked out good and everything like that, it would be all for the best, or something similar to that, was the substance of the thing, at least, and we told each other goodbye.

Q.65: That was before the settlement agreement, which I believe you said was September 15, 1944. When was the first that you ever heard of the Kelley well use?

Mr. Lyon: That is objected to as immaterial.

A. The first time I ever heard of the Kelley well use was after this long-continued episode in the Patent Office claiming this patent, claiming that we owned it, and claiming it backwards and forwards. Now they finally claim it was public use. It came in with an affidavit of Kenneth A. Wright some time in the Kelley use. I believe the first I knew of it was some time in February, possibly, '53.

Q.66: You never heard anything about the Kelley use prior to the time that it was brought into this proceeding? [2647-14] A. No, sir.

Mr. Lyon: That is objected to as leading.

(Deposition of J. E. Hall, Sr.)

A. I searched all the papers, all the affidavits, and it has never been mentioned in none of them up until recent date.

Q.67: You have indicated in one of your previous answers that you worked in the well completion field, started about in 1937, have you not?

A. It started in 1935.

Q.68: And you have indicated that these spiral centralizers were offered by you some time in 1937?

A. They were offered in 1936. We made the oil show in Tulsa. We had some there, but the active business didn't commence until in the year of 1937.

Q.69: In this proceeding, you have been charged with appropriating ideas of others. I would like to have you, for the record, just relate, if you will, the history of the development, of your development, in this scratcher field from the first down to the time when you filed the second application in 1945.

A. You mean all the different steps of events?

Q.70: Yes. I would like just for you to give a sort of chronology of your development from this 1935 date that you have mentioned.

Mr. Lyon: That is objected to as indefinite. Chronology [2647-15] of what? Development of what?

A. I might have to stop and look at some records, but I will attempt to get it offhanded, and we will check the records along with it, or whatever necessary. In the first part of 1935—

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Q.71: If you want a record while you are giving this history, why, if you think it is among the papers we have here, call for it, and I will see if it can be found.

A. I will probably call for the records at cross-examination.

Q.72: Cross-examination of whom?

A. If I am cross-examined, I will probably have to go into them.

Q.73: Well, both Mr. Lyon and I will anticipate that.

A. In 1935 I were drilling an oil well in Kern County, California, and I got an idea of putting bristles on the collars of the centralizers, so I had spent some time in getting one built, and many parts, because at that time I didn't have time enough to work on it myself, at the Hall Machine Shop in Bakersfield, California.

This Hall was no relative of mine whatsoever. I never knew him before I went in there. I did know his [2647-16] salesman. I knew his mechanic.

That model was built, and another similar model was built and later chromed. That model was built, the first model was sent to Los Angeles, to the office of Samuel Robinson, which taken the matter up, so he said, with Mark Herren and Mr. Maxwell. Mr. Maxwell and Mark Herren were practicing patent work together.

I had tendered a proposition to them, to Mr. Robinson, for them to file the patent through and

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prosecute it through the Patent Office for an interest in the patent, if obtained.

Q.74: Who was to get the interest?

A. Mark Herren and William Maxwell.

Q.75: Also state what the patent related to.

A. A centralizer with scratchers, combination of scratchers on the collar and the one we had had the scratchers on one collar, but the collars were interchangeable that we had made; you could put two collars on one centralizer, with scratchers on it or leave them off, either way.

Q.76: Whom was that filed through?

A. That wasn't filed. It was sent in to them to file, but due to the fact that the straight centralizer had been pretty well controlled by some patents by a fellow by the name of Steps in California, both Maxwell [2647-17] and Mark Herren advised against filing the straight centralizer patent. At least, the application was never filed.

About a couple of months later, or something like that——

Q.77: What year was this?

A. 1935—I had six scratchers made and run them on a string of casing. The size of the casing was 5 $\frac{3}{4}$.

Q.78: Where was the well?

A. The well was in Kern County, California, in the oil field commonly known as the Weed Patch. The name of the well was Bristol No. 1. I had these scratchers, boys to help me install them, the crew on the rig I was drilling at that time, and the

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first joint I took up with the scratcher, before I installed it, I put it on the joint and run it down in the well and pulled it back, and that was my first knowledge that a radial bristle wouldn't reverse in the diameter if the walls were at a much greater diameter than the casing it was run in, and they were installed with lugs. In other words, I realized I only had a one-way traveling scratcher.

Q.79: What was installed with lugs?

A. The six scratchers was intalled on [2647-18] the pipe with lugs. Those lugs was beads made out of electric welding, built up inside of the collars, so they wouldn't slide over them.

Q.80: Why did you put them on that way?

A. Because that was the cheapest and the simplest and the fastest way to do it. Those scratchers were run in the hole. The pipe never went to the bottom. In fact, we had a permit to set the pipe off the bottom.

Then, next, I built two scratchers, centralizer scratchers, for 3½ pipe. In other words, considered to be 4-inch pipe. That was run in the inside of this pipe to the bottom of the hole, what they call the liner string.

Q.81: Fix the time.

A. Well, we had to do some drilling and so on. Off the record, I would say—or on the record—we was approximately close to the month of September.

Q.82: What year? A. 1935.

Q.83: The same well?

A. Same well. The only record I have now to

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verify that is the permit to the state, California State Bureau of Mines, that I have.

Those scratchers were run together with a Baker basket and a Baker whirler-type float collar, with the [2647-19] liner below and the collar on them above. That pipe was set and the well was put on production and produced. I sold it just shortly after that.

Q.84: You have identified these two as a centralizer scratcher of some sort. What were they, actually?

A. Well, a centralizer is where you use two cylindrical collars in an outward bow. They put four outward bow members, making the centralizer. I don't recall just how many springs the centralizers had on them at that time.

Q.85: Did these two centralizers have scratchers attached to them or not? A. Yes.

Mr. Lyon: I object to that as leading and suggestive.

A. If I may state here, that one of the great problems we had was how to—we could fasten the bristles in the collar, on account of the radial action that the springs had.

Mr. Lyon: I move to strike the statement of the witness as entirely voluntary, not responsive to any question.

A. I searched all the records after that in the Patent Office service for different types of the springs, how they were put in the collars, and various different things. I looked at a number of other

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devices [2647-20] that were made to clean well bores with bristles, and none of them would give me the relief that I wanted, and I continued working, and in the year 1936 I put teeth in the outward bow spiral springs on the centralizers, had much discussion on it, also put wire bristles on the spiral springs on the inside, and at that time I licensed my application to a company named Cosco Manufacturing Company. The principal man in that company was a man named Joe Horasta and Pat Smith, which was the vice president.

My son John and I discussed the thing at considerable times, how we could put a better cleaning device than the first application for spiral centralizer. At that time, I was a little short on money, and I asked Joe Harris, who was president of the Coast Oil Field Manufacturing, to advance the money to pay for the application, and he finally stated that he would go for the helical dies that was later filed an application on. A co-pending application was filed in '35, and the spiral centralizer was moved into this application.

All through the years I constantly worked with well bore cleaning devices and run many, many wells. A rough figure, I presume that I sold around \$100,000 worth of spiral centralizers up to the year of 1940. I practically run every one of them that was run in wells myself, all [2647-21] over the United States, excluding California, and I was constantly searching for some type of finger device that would not describe a radial movement; in other

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words, something that could be reversed in the well bore diameter.

I used a number of other patents in the earlier days, trying to figure out how other fellows had put in bristles, and I found none of them that were doing the thing that would give me the necessary relief that I wanted in my device.

Some time between 1938 and 1940 I got the idea of how to make a scratcher and develop one that would reverse in the cylinder to a small degree, and by, possibly, the latter part of 1940 or the first part of 1941 I had developed to my satisfaction a design of a bristle placed in a collar that would reverse in a cylinder. I made a number of them and tested them various different ways.

In the early part of '41 I had advertising photographs made, cuts made, and advertised them.

Q.86: You saw the Jones and Berdine tests in 1939, didn't you? A. I certainly did.

Q.87: Did you see a reversible scratcher there?

A. I did not. [2647-22]

Mr. Lyon: That is objected to as leading, and also calling for a conclusion of the witness.

A. I didn't see anything in the Jones and Berdine tests but what I had also seen in former applications of various different types of finger device. In fact, I didn't see as much. Most of those devices that had a radial movement showed that they had some type of closing arrangement. They well realized that they only worked in one direction.

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Q.88: Proceed with the chronology. I think you brought it down to the time when you first thought you had a reversible device, sometime in 1940 or '41.

A. This reversible device, I have been constant since 1935 in various different types of development of it. I don't know the exact date, but the earliest date that I do know and the earliest ones that I do know that I did, I had a scratcher and had shown it to many of the [2647-23] fellows in the oil fields and carried them around with me, and I had it completely manufactured in the early part of '41. I imagine that I had made it, owing to the time and the period of time it takes to make things, I imagine this last scratcher that I made was made some time in the latter part of '40.

Q.89: I would like to have you state what that was and where you had it manufactured.

Mr. Lyon: That is objected to as a compound question. This witness ought to be asked a single question at a time.

A. I were making scratchers in '40, beginning the making of centralizers at my mother's place in Parker County. I also was making centralizers and had small shop equipment in Hollywood, California, that I made and fabricated centralizers together.

Q.90: When was that?

A. That was in the latter part of the year of '40 and first part of '41.

Q.91: Did anybody else do any manufacturing

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for you on these particular scratchers in 1940 and '41?

A. Yes, I had several outfits to do certain things. I consulted certain outfits to do certain things. I consulted the Hollister Spring Company there in Los Angeles. [2647-24]

The Reporter: Hollister Spring Company?

Mr. Lyon: The Witness didn't say Hollister.

Q.92: What did you say?

A. Hollister Coil Spring people.

Mr. Scofield: That was what I understood.

Mr. Lyon: That wasn't the way I understood it.

Q.93: Proceed.

A. Well, I am going to back that up, and if anybody has got any different idea, I said I consulted and discussed with the Hollister Coil Spring people. That is my statement, and that is my statement I will stand by and I don't want nobody contradicting me. I am going to give some contradiction on some testimony here, and I am going to ask somebody to explain it away.

Q.94: Well, go ahead.

A. The type of scratcher that I had developed over here was made the easiest way. I made that with round holes in the collars, and the type that I had made in California, where I could get a punch press to punch out some of the holes, I had made some few collars with square holes. The first holes that I made in them was long holes, because I had a radial spring in them, and after I began to run tests on them, I began to make slight changes, and

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I found out later that I needed the square hole, and up to that time I had been using the [2647-25] round hole. Over when I was in this part of the country where I had drilled them, the first holes I used were round holes, were drilled, not punched. These square holes, the press I used to punch them was a press that made television chasses for me in Hollywood. That factory is about two blocks from Vine Avenue there, and it is in the Hollywood section there. I don't know the address of it now. If anybody wants it, I will find out for them. They done considerable manufacturing for me, and that was through the year of '40, and possibly '41, maybe some up into '42. I don't know just exactly. I have been going back to them many times since then. After I began to make the sidewise bristle——

Q.95: When was that first done?

A. That was done at the same time, in '40. The only note that I have on that are the early photographs, a copy of them that was filed, and I know we were some time filing the application. In other words, the application wasn't filed over night. I know there was considerable discussion on the application before it was filed.

Q.96: Who filed the application?

A. A fellow by the name of Robert Smith in California.

Q.97: What application are you [2647-26] referring to?

A. I am referring to serial number 388891. It was filed the fourth month, sixteenth day, 1941.

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Q.98: Now, proceed with the development. You may first state whether these first scratchers that were made were the complete scratcher or the half scratcher, some of which are here in evidence.

Mr. Lyon: That is objected to as leading.

A. All of my scratchers that were made in, you might call it, a semi-hand operation, without machinery, was made of half circles, because I used an anvil affair to clamp the collar down and to bend the collar around it. The solid round collars wasn't made until we followed up with a punch press, something you can carry plumb around.

Q.99: How were the wires fastened to the collar?

A. All of my earlier wires was fastened with a stove bolt or a rivet, which the stove bolt was the same thing. I just took a little stove bolt and screwed it up tight and then hit it with a hammer. In other words, that rivet was so it couldn't come undone.

Q.100: How did you form the coil spring?

A. I made a hand-winding machine and wound the coil. I bent the various other eyes, the turns that was necessary to hold, the inner part, by pliers.

Q.101: In those first scratchers that you made, how [2647-27] were the coil springs arranged with respect to the collar?

Mr. Lyon: That is objected to as leading, and also as not the best evidence, calling for secondary evidence.

(Deposition of J. E. Hall, Sr.)

A. The first scratchers I made, the coil springs run with the collar.

Q.102: What do you mean by "run with"?

A. They run around with the collar.

Q.103: You mean the axis was——

A. The axis, the spring was with the inner circumference of the collar. It was on the inside.

Q.104: Why did you do that?

A. Because I didn't know any better, I guess. Just done it so I could thread a wire around through it. It looks like I was using the collar for a radial movement. I only had a radial movement in mind when I made the first ones. I made many drawings, many sketches, of them. In fact, I had several models and several designs that I wrote maybe two or three or four applications, specs upon.

Q.105: Were any of those filed?

A. No. Before I would file them, I would often write application specs up on various things, or assist, or it was written, and before I got it filed, I had other developments in, and, in fact, I [2647-28] were carrying on my work in the field, and I would go back, and before I could ever file and give the final word to have them filed, improvements came along.

Q.106: Were you working with a patent attorney?

A. Well, I worked—in none of the development work, I never done with a patent attorney, but I

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kept a patent attorney pretty well employed all the time.

Q.107: Who was he?

A. A fellow by the name of Smith, R. W. Smith.

Q. 108: Was he the same Smith whose name appears in this application 388891? A. He is.

Q.109: Now proceed with your history after these first scratchers were made by you by hand.

A. As I say, I had the difficulty running with the one, part of the circle of the collar, threaded with a wire, and that was a similar design as some of the earlier patents that I had seen on like devices before.

Q.110: At this juncture, I might ask you whether or not you fastened the wires to the collar in the manner shown in this first application of yours?

Mr. Lyon: That is objected to as leading and suggestive, and not the best evidence, calling for secondary evidence.

A. No, the first drawings that we [2647-29] made——

Mr. Lyon: I object to any statement about the drawings.

A. The first drawings that I recall that was made was where we made the spring go around with the collar, and was threaded with a wire that threaded plumb around the circumference of the collar, and there was two bristles to each wire, one

(Deposition of J. E. Hall, Sr.)

on each side of the collar, similar to the scratcher that is made now.

Mr. Lyon: If you will just wait a minute, I move to strike the statement as not responsive to any question and as secondary evidence and not accounting for the primary evidence, an effort to describe a drawing.

A. A later development was made by making the hole smaller, and I found that I could get a resilient sideways movement of the spring that give me a little relief and reversing in time.

Q. 101: What is this wire you are referring to? Scratcher wire or some other wire?

A. That is the wire that holds the bristles in place. Then I moved out that wire and fastened the inner arm of the scratcher by a stove bolt, and I found at that time that I could get sideways relief. By putting it in a cylinder, I could see the operation, and then I enlarged the holes by cutting them square.

Q.112: Why didn't you use this manner of fastening [2647-30] the wires to the collars as shown in serial 388891?

A. Because fastening of the springs on the inside, fastening the arm, is all that was necessary to hold that arm to the collar, so that the bristle would in turn be held in position, and due to the fact of the equipment we had on hand, a rivet was used instead. In certain factories this collar design would probably be preference; in other factories where equipment was available to do the manufacturing, why the rivet would be more preference.

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Mr. Lyon: I move to strike the statement as not responsive to the question. The question was why didn't you, and he hasn't answered it yet.

Q.113: Yes, I would like an answer to that. Why didn't you use this particular type of anchoring device that is shown in serial 388891?

A. Because I didn't have the type of equipment to do that type of manufacturing; never have had it.

Q.114: Now, we are down to some time in 1941, I believe.

Mr. Lyon: I don't know how you got to that conclusion.

Q.115: Well, where are you, Mr. Witness?

A. It was more this type here that is shown in 388891—— [2647-31]

Q. That is April 16, 1941?

A. At that time I had decided I had thoroughly developed a scratcher that would reverse in a cylinder with the fingers at a much larger diameter, and I filed an application on it.

Q.117: That was in April, 1941. What did you do after that toward promoting or developing the scratcher situation——

* * *

A. I remember taking some scratchers that I had made and going to Corpus Christi.

Q.118: When was that?

A. Well, that was either May or the first part of June.

Q.119: What year?

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A. 1941. Then I came in to Houston, where I had some stuff. I had a warehouse I had been using down here on Polk Avenue. I went out to the Gulf some time the fore part of June, out to the Gulf Publishing Company, and discussed with them about putting an [2647-32] advertisement in the Oil Weekly, and they told me what they wanted in the line of a picture, and I went to some place over here on Polk Avenue along about I believe it was the 23rd of June, or possibly I went there the 22nd, 1941, and I had some pictures made of it.

Q.120: Have you seen a reproduction of that picture lately?

A. I had pictures all the way along. I taken care to look it up recently, or had it looked up, and I got the reproduction of that picture, and I have seen it the last few days, and I had an ad put in——

Q. 121: I show you Exhibit 53, and ask you whether you can identify that?

A. That is of the scratcher that I had made, and I had the pictures taken.

* * *

Q.122: Can you identify the picture?

A. I certainly can. I said it was a picture of a scratcher that I had at that time.

Q.123: Does this picture bear any relationship to the visit to the Gulf Publishing Company?

A. It certainly did. [2647-33]

Q.124: What relationship?

A. It bears the relationship that I was carrying

(Deposition of J. E. Hall, Sr.)

out what I had agreed with them, wanted to put an advertisement in that business magazine.

Q.125: About when was this picture obtained?

A. I believe it was obtained about the 24th or 25th of June, something like that, a day or two after I had taken it up there to have the picture made.

Q.126: And have you attempted to find out just when that was taken?

A. I have; I have looked up all the records that I could on it.

Q.127: Did you go to the commercial photographer that took the picture? A. I did.

Q.128: Were they able to establish the date?

A. They were.

Q.129: How were they able to establish the date?

A. They found the bill, the order where it was taken, where I repaid them for it.

Q.130: Did you ask for reproductions of this to be made? A. I have.

Q.131: Do you have those yet?

A. No, sir. [2647-34]

Q.132: All right. Proceed. After you had the picture taken by the Litterst Commercial Photographing Company, what next did you do?

A. Next I recall some time after that—I don't know just how long it was—I went to Weatherford and figured out how I could get some more of these made, and I went into town, and I went into the barber shop to get a haircut——

Q.133: Before you get to Weatherford, was there anything done with the picture?

(Deposition of J. E. Hall, Sr.)

A. I don't know. There was something done with it. I don't know whether I notified the Gulf Publishing Company to come and get it, or I got some pictures of this myself, but I got them, and I remember there was several days spent in that period of time between Bill Atchison and myself, who was the advertising field man of the Gulf Publishing Company here in Houston, and we discussed that advertisement several days. He helped me. At that time I had no publicity agent, and he helped me write the first ad.

Q.134: What was the first ad?

A. Well, the first ad is that page ad I have seen here a number of times. I don't know what identification mark it has.

Q.135: In what magazine did it [2647-35] appear?

A. The Oil Weekly.

Q.136: Do you know the date?

A. It was some time after this date here.

Q.137: What date? Some time after what date here?

A. June 23, or June 24.

Q.138: I show you photostats of an advertisement that has been offered here as Petitioner's Exhibit Z. Can you tell me what that is?

A. That is the ad that was run in the Oil Weekly that I had been talking about, and this cut in that, that is from the picture that I have been talking about.

Q.139: And the picture you refer to is Exhibit 53, Applicant's Exhibit 53?

A. That is right.

Q.140: Does that photograph appear on the ad?

(Deposition of J. E. Hall, Sr.)

A. It certainly does.

Q.141: Now, at the time that this appeared in the Oil Weekly, did you arrange for advertising to be prepared besides that that appeared in the Oil Weekly?

A. Yes. I had a few, though I don't know how many I had, but I had a number of what they call re-runs, similar to the page in the magazine, or exactly like the page in the magazine.

Q.142: Now, I would like to have you tell me just [2647-36] what the structure of this scratcher was that was shown in the photograph; and by that I mean tell me first who made it? A. I did.

Q.143: And how was the band of the collar made?

Mr. Lyon: Objected to as calling for secondary evidence. The scratcher itself is the best evidence.

A. The collar was made first in two halves. The holes were drilled, then I had two seat clamps that I bolted the material down on a part of an anvil of a length that represented part of a circle, and I opened the thing round, then hammered the lips down on the outside, making them in halves. These particular springs was wound with annealed wire, all of it. Later, after I went into manufacturing, I had some 250 pounds of this annealed wire. The war was on, and it was during that period the wire was awful hard to get, spring wire was, and I used this annealed wire, but when the springs were het to be tempered, they would unwind, and then again when you would stretch them, they would unwind again,

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and due to the fact that the springs are crossed, is a mishapening. We didn't intend that.

Q.144: That was due to the——

A. That was due to the fact of the winding of the spring, and we thought as long as it didn't [2647-37] do any harm, we continued making them that way, and there was the question or not for a while whether we would continue or not.

Q.145: Now, you have taken in your hand a half scratcher that has been identified here as Applicant's Exhibit 36. I would like to have you tell me what that is.

A. That is a half scratcher that was picked up about six years ago as we were moving at my mother's place about nine miles or ten out of town, and this scratcher was picked up at the location where I had made my first scratchers.

Q.146: Out of what town?

A. Out of Weatherford.

Q.147: Does your mother live on the outskirts of Weatherford? A. About nine miles out.

Q.148: Who found this scratcher?

A. I got it myself. The fact of the business, it wasn't picked up, it was hanging on her back porch, hanging on a hat rack on the back porch.

Q.149: Who made that half scratcher, Exhibit 39?

A. I made that and wound the springs, tempered the springs.

Q.150: Could you fix about the date when that was made? [2647-38]

(Deposition of J. E. Hall, Sr.)

A. The only thing that I had to fix the date that I know of, it was a considerable time before I made this picture, because I had thoroughly worked it out, which takes a lot of time, and made it, and I know that I was on my return trip from Corpus.

Q.151: And the picture you have referred to in the last answer was Applicant's Exhibit 53?

A. That is right.

Q.152: Were the holes in this collar, half collar, Exhibit 36, punched or drilled?

A. They were drilled.

Q.153: By whom? A. By me.

Q.154: What sort of drill did you have?

A. I had one of these hand-crank drills.

Q.155: How were those wires wound?

A. Those wires were wound by——

Q.156: What were the coils in, the wires wound by?

A. The coils in the wires was wound by a little hand winding machine that I had made.

Q.157: Where did you make that?

A. I made that in California.

Q.158: Do you recall when you first substituted rivets for stove bolts in these scratchers?

Mr. Lyon: That is objected to as [2647-39] leading.

A. Yes, at the time that I got through changing the design of the bristle and taken it out and tested a big part of the junk which is tested to fit the collar and to set the spring at whatever angle I wanted, by using the stove bolts, I could loosen them and

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make the changes, then make the various tests again. The stove bolt answers the same purpose that the rivet answers, and these rivets here——

Q.159: You are referring to the rivets on Exhibit 36?

A. The rivets here on this exhibit were the same kind. The first rivets were not made special, and the heads were too big, and they give me some trouble on the rivet. I remember what a time I had [2647-40] there.

* * *

Q.160: Now, you are referring to the design as Applicant's Exhibit 36, and the picture is Applicant's Exhibit 53? A. That is right.

Q.161: In one of your previous answers you have indicated that some of the rivets had heads that were too large. Can you tell me whether the rivets that held the wires in Exhibit 36 were rivets of that type, or were they rivets that were of a satisfactory type?

Mr. Lyon: That is objected to as leading and suggestive.

A. These rivets were not satisfactory.

Q.162: Do they constitute some of the rivets that had heads of too great a size?

A. That is right, too great a thickness.

Q.163: Why did rivets with heads of too great a thickness give you difficulty?

A. The difficulty of making a scratcher that would run satisfactory in the cylindrical space in all oil wells is to make a scratcher that has as thin a diameter or thick thickness in the collar as you can

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possibly get, and the thickness of these rivet heads only made the scratcher possible in diameter 1/16 of an inch larger than it would have been with the proper rivets.

Q.164: How did you arrive at the disposition of the [2647-41] coils in those holes in this collar?

Mr. Lyon: That is objected to as leading.

A. Realizing that the spring finger had two major things, or major travels to travel in, one is from the largest diameter of a well bore to the minimum diameter, second, the pipe would have to reverse action, and the spring would have to turn something like 190 degrees, and it would also have to travel in and out, and in order to do that, my earliest test to make the spring that would travel that and not take a bend in it was five wraps, and by setting the spring at an angle, cause what I figured was the proper pitch, that when the scratcher was reversed it would always cause the finger to have an inward travel, in towards the band, instead of a radial travel.

I have never found a great deal of difference, if they are substantially a sidewise bristle, from the radii, whether they are more at an angle or lesser angle; they seem to work in about the same manner.

In order to get this function five wraps, five convulsions in the spring was adopted, and the pitch of the spring coming out through the collar hole at an angle would govern the pitch of the spring finger going toward the bore of the well.

(Deposition of J. E. Hall, Sr.)

I also realized that I could set the spring at an upright [2647-42] position on the radii, but it would take a greater diameter, so I set it back, so that that would be a smaller diameter in the thinness of the collar.

Those are some of the reasons why the spring was set at an angle through the hole, and five convulsions with the travel of the reverse action, and the inward and outward action, was the reason that was adapted but it was adapting, too, at the pivot point of the finger, without having flexible resilient means at that point; there would be too much strain throwed on the finger, and it would be forced to bend, a repeated combination of punishment to it at repeated reverses, and finally it would break off.

Q.165: Was this half scratcher or were scratchers of that type in existence when this photograph was made, Exhibit 53?

Mr. Lyon: That is objected to as leading, and also calling for a conclusion of the witness.

A. I never made any more scratchers myself, other than put a few together, after this photograph was made.

Q.166: Now, answer my question. The question was, was this half scratcher, Exhibit 36, in existence at the time that this photograph was made?

Mr. Lyon: Same objection. Leading.

A. It was. [2647-43]

Q.167: What type of collar was the scratcher which was Photograph Exhibit 53? What type of collar did that have, single weld or double weld?

(Deposition of J. E. Hall, Sr.)

A. This had a double weld.

Mr. Lyon: That is objected to as leading.

Q.168: Does that show in the photograph?

A. It does.

Q.169: Is it clearly evident in the photograph?

A. It certainly is.

Q.170: After this exhibit, Photograph 53, was taken here in Houston to run these ads, Exhibit Z, in the Oil Weekly, what did you do then?

A. Well, on my next trip to Weatherford, I went into Weatherford and in the barber shop I met a man by the name of E. A. Frantz.

Q.171: Had you know him before?

A. Well, I did know him for many years, but not intimately.

Q.172: Was he a resident of Weatherford?

A. He was.

Q.173: What business was he in?

A. I believe at that time he was in the real estate business. He had previously had something to do with manufacturing. He also had a small cotton buckle tie factory that he ran something like two or three months [2647-44] a year.

I showed him this cut. I also showed him my application. I showed him my Patent Office drawings, and he came out and sat in my car, and I went to the back of the car—I had a coupe then—and I got a couple of half scratchers, and we sat in the front seat and discussed it, and, of course, I was showing him how easy the springs could be made and one thing and another, and we discussed there about how

(Deposition of J. E. Hall, Sr.)

it should be made. I told him that I had decided that should be made with oil tempered wire, and that I had a little wire on hand, and wire was awful hard to buy, that these were made with annealed wire.

He says, "If we can temper it ourselves, we had just as well use that wire." He says, "I will make a deal with you and start making them."

Some month or so after this time, he started to manufacture them.

Q.174: Did you make a contract with him?

A. Yes. He went up then—in fact, I went with him, we went up and discussed with his attorney, a fellow by the name of E. A. Zellers from Weatherford, Texas, we discussed the contract, and we went back the next day and discussed the contract, and I believe the next day the contract—in that same two or three days the [2647-45] contract was finally signed. He had no equipment at that time for the immediate manufacturing of this here, and he immediately went away——

Mr. Lyon: Just a moment. I move to strike that statement last made, as entirely voluntary, not responsive to any question.

A. ——until he said he would see if he could find some equipment to use.

Mr. Lyon: I move to strike the last statement as hearsay; also not responsive to any question.

Q.175: I show you a two-page contract and ask you whether you can identify it?

A. Yes, sir. That is the contract I entered in with

(Deposition of J. E. Hall, Sr.)

Mr. E. A. Frantz to manufacture my [2647-46]
scratchers.

* * *

Q.176: I note that this contract is dated July 12, 1941. How long prior to the date of that contract was your discussion with Mr. Frantz?

A. A very few days.

Q.177: What do you mean by a few?

A. Well, I stated that some three or four days from the time I met him in the barber shop until the contract was drawn, because we had some time used in discussion as to what we would put in the contract.

Q.178: Had the ad in the Oil Weekly, July 7, appeared when you entered your first negotiations with Mr. Frantz? [2647-47]

Mr. Lyon: That is objected to as leading.

A. I do not know. All I know, that I had some photographs of the picture that is present. I had several of these.

Q.179: You are referring to Exhibit 53?

A. Yes. I had some little ones, too, that I remember, little, small ones.

Q.180: Smaller than the photograph that is before you, Exhibit 53?

A. Yes. I don't know whether they was made with a small camera or what, but I remember at that time I had some smaller ones.

Q.181: What did you have those made for?

A. I had them made for just the purpose of showing what I had.

(Deposition of J. E. Hall, Sr.)

Q.182: Did you have any of the half scratchers, Exhibit 36, when you talked to Frantz about manufacturing this device? A. I certainly did.

Q.183: How many of those did you have?

A. Well, I carried all of the different things that I had, different parts that I had, of the scratchers, and sizes, I had two tow-sacks in the back of my car with various things in it. I remember of getting out two half scratchers and getting in the front seat to show and [2647-48] discuss it with him.

Q.184: What did you mean in your previous answer by a tow-sack?

A. That is a burr sack. That is a name, possibly, used in the south. That is all I was raised up to call them, tow-sacks.

Q.185: Just a hemp sack? A. Yes.

Q.186: How soon after you made your contract with Mr. Frantz were you able to actually get into the manufacture of the scratchers? Over what period did it take you to get things under way and get your manufacturing facilities in such shape as to manufacture the scratchers?

Mr. Lyon: That is objected to as leading, grossly so. In fact, I wonder who is testifying.

A. From that date, I would say it taken about a month and a half until we got started to manufacturing.

Q.187: Did you make anything else besides scratchers? A. Yes, I was making——

Mr. Lyon: That is objected to as immaterial and irrelevant.

(Deposition of J. E. Hall, Sr.)

A. —spiral centralizers all the while, [2647-49] and selling them. That was my source of income.

* * *

Q.188: I would like to have you look at the contract which has been marked Exhibit 54 and state whether or not that is your signature?

A. Yes, that is my signature.

Q.189: Can you tell me whether or not that is your copy of the contract?

A. Yes, sir. [2647-50]

Mr. Scofield: The contract is offered in evidence.

* * *

Mr. Scofield: I will also offer at this time the photograph, Applicant's Exhibit 53.

* * *

Mr. Scofield: I also offer at this time the half scratcher which was marked for identification as Applicant's Exhibit 36.

Mr. Lyon: The same objection as to the offer of the contract and the photograph, for the same reasons.

Q.190: You have indicated in one of your previous answers that the type of scratchers you and Mr. Frantz were making, or started out to make, were spiral centralizers. [2647-51]

A. No, I told him about my manufacturing of the centralizers, and we agreed that he would take one thing at a time. I was already making my centralizers. I had pretty fair equipment. I was making them and already tuned up on them, and he

(Deposition of J. E. Hall, Sr.)

said he wanted to start making one at a time, and this would be the easiest thing to get started on, but right after he started to making the scratchers, I allowed him to begin making centralizers. I don't know how soon. I would have to search to see if I could find it up to date. I haven't got any notion when he first started making centralizers, but it was soon after he began making these, I would say four or five or six months.

Q.191: How long did it take him to begin making the scratchers?

A. Oh, offhanded, I would say before he could turn any amount of them to complete an order, was a month and a half.

Q.192: How were the collars made at first?

Mr. Lyon: That is objected to as immaterial, as to how the collars or the centralizer was made.

Mr. Scofield: I didn't inquire about the collar of the centralizer.

Q.193: How were the collars of the scratcher made? [2647-52]

A. The first collar, we went to Bateman Machine Shop in Mineral Wells. He had a punch press up there, and we had him to punch the holes for us in the first collars that was manufactured.

Q.194: So that the holes were punched in the bands? A. That is right.

Q.195: How were the collars themselves made? Were they made in one piece, or were they made in two pieces, as you had made them before?

A. He made them both ways, but he didn't

(Deposition of J. E. Hall, Sr.)

make them in two pieces, as I had made them and had to make them in two pieces. He made some of them in two pieces. I had them made in two pieces for streamline pipe, upset pipe. The other collars were solid. They had one weld in them, a solid piece of material bent around and welded.

Q.196: Where was Mr. Frantz's establishment located in Weatherford?

A. It was between Bridge Street and Water Street, off of New York Street, I believe.

Q.197: How much of an establishment did he have? By that I mean what equipment did he have for manufacturing?

A. He didn't have any to manufacture scratchers, but he had a few buckle machines in there, had a lathe and a shaper. Most all the equipment we started out with [2647-53] was either rented or obtained from Bateman Machine Shop.

* * *

Q.199: When you started in with this endeavor, you and Frantz, who was working for Frantz? Did he have any employees?

A. I don't believe so at that time. He had employees that had been working for two or three years, but they only worked a couple or three months a year, during the season of manufacturing buckles. [2647-54]

* * *

Q.203: Who set up this operation to manufacture this scratcher? Was it Mr. Frantz or your-

(Deposition of J. E. Hall, Sr.)

self, or did you do it jointly?

Mr. Lyon: That is objected to as leading.

A. The biggest part of it was set up [2647-55] by Mr. Bateman.

Q.204: Mr. who?

A. Mr. Bateman, in Mineral Wells. Frantz and I discussed it, and Mr. Frantz knew nothing about the oil fields and the requirements, and at that time Frantz spent very little time working, because he was busy in his real estate, house building and what not, so we went by and showed Mr. Bateman what we wanted, and he made the first die, and set up the first die that punched the first collars here, and then we started from that time on, and by that time we had made the dies that formed the collars.

Q.205: How did you wind the first springs?

A. After discussing with Mr. Frantz the type of winders I had, we suggested some changes, and he had part of the spring winder made in his shop at Weatherford, in his machine shop there.

Q.206: Have you seen those spring winders here?

A. Yes.

(Mr. Scofield produces a winder.)

A. No, it is not that one.

(The witness produces another winder.)

Q.207: You have picked out of the box behind you a device which is marked for identification as Applicant's Exhibit 34. Will you tell me what that is? [2647-56]

(Deposition of J. E. Hall, Sr.)

A. Yes. That is one of the parts of the machine. I may say this, the machine to wind the springs consisted of four parts, or four different little machines to wind them. There was a left and right-hand spring. That takes two spring winders to wind them. Then there was a left and right eye that they turned on the springs. Now, all the springs that I had turned the eyes on before was turned by a pair of pliers, sharp-pointed pair of pliers, so then we had to develop something to turn the eyes, this machine here.

Q.208: You are referring to 34?

A. 34 is an eye-turning machine.

Q.209: What is that Exhibit 33?

A. That is a spring winder. That winds the convulsions in them. There had to be two sets of those made, parts of which was made in Mr. Frantz's machine shop, and part of the work was done out of the shop.

Q.210: Where else was the work done, besides in Mr. Frantz's machine shop?

A. I carried these spring winders to a blacksmith shop.

Q.211: Where? A. In Weatherford.

Q.212: Whose blacksmith shop was it?

A. I forget the name of the fellow, but [2647-57] I believe I could find it, or I could locate it for you. It is right in back of the post office about a block.

Q.213: Why did you take it there?

A. Because Mr. Frantz didn't have no welding machine when we started.

(Deposition of J. E. Hall, Sr.)

Q.214: Why did you need a welding machine?

A. Because there is a lot of welding done on these winders, quite a bit of welding done. They had to study them, and quite a lot of tedious welding.

Q.215: Now, you have indicated that Exhibit 33 was used as a winder for the coils.

A. That is right.

Q.216: And what was Exhibit 34 used for?

A. Bending the eye where the rivets went through them.

Q.217: Is that the eye that passes over the rivet beneath the collar?

A. The eye or hook, or anything you might want to call it. [2647-58]

* * *

Q.218: Where did you spend most of your time in this partnership with Mr. Frantz? Was it in the shop or outside?

Mr. Lyon: That is objected to as assuming a fact that has not been established by the evidence.

A. I spent the earlier part of the manufacturing scratchers, I would say the first thirty days, about 100 per cent of the time in the factory, or in the place we was attempting to make a factory out of. Thereafter I probably spent eight per cent of the time, or a larger portion of the time, in the oil fields selling stuff.

Q.219: You have indicated that the first scratchers that were made were of the half type.

Mr. Lyon: That is objected to as leading.

(Deposition of J. E. Hall, Sr.)

A. You mean with Frantz?

Q.220: Yes.

A. I wouldn't say so. At the same time we had this punch press set up to punch the collars. We could punch a whole collar and form it as well as we could form a half collar at that time, but I had some of the half collars made, as well as the whole collars, [2647-60] because a certain per cent of the pipe is streamline pipe.

Q.221: Are there any records in existence to establish the dates when you first got into manufacturing?

A. The contract and the shipment that was made by Frantz, and he made all the shipments out of Weatherford for me by freight lines or whatnot.

Q.222: Yes, but would those shipments show the type of scratchers, that is whether they were half scratchers or full collar or full circular scratchers?

A. Yes, they would. They would have to show the type of shipments it was. That was the way all of our shipments have been made. Shipments are always designated, that material that was shipped on the inside of the box, the shipment.

Q.223: Do you have any of those records?

A. No, I don't believe so; I possibly could find them, and possibly could obtain them. I don't know. If they have not been destroyed.

Q.224: Have you tried to find them? Have you gone through your records on this particular matter?

(Deposition of J. E. Hall, Sr.)

A. Yes, I have had some two or three people going through all of my old records and trying to establish everything I could find. Up to date, I haven't [2647-61] seen any of the old shipments, the early shipments that was made. I recall in the very early days making a special deal with Frick-Reid, and I imagine we could get the early shipments from Frick-Reid.

Q.225: I mean in your files have you been able to find any record which would establish when the first scratchers were made by Frantz?

Mr. Lyon: That is objected to as leading.

A. No, I haven't, that I know of. There are so many of those papers, I don't believe that I had the knowledge of what I have got in the papers.

Q.226: Have you gone through all the records in an attempt to determine when this manufacturing was started? A. Yes, I have obtained——

Q.227: Have you up to this time been able to furnish me with any records to show the definite date when the first shipments were made from the Frantz factory?

A. No, I haven't. [2647-62]

* * *

Q.231: And were these the first scratchers that were produced by the partnership of Frantz and Hall?

A. It wasn't a partnership. He manufactured the scratchers for me at a given price, a certain per cent. Yes, I attempted to cover all the fields.

Deposition of J. E. Hall, Sr.)

I had my son John located in California. I had him helping me. But I principally was concerned in the Mid-continent area.

Q.232: Did the first scratchers that were made by Frantz have the cross wires? [2647-63]

Mr. Lyon: That is objected to as leading.

A. I would say that all the scratchers that was made by Frantz, possibly the first thirty days, figuring about three-quarters of a pound of wire, or half a pound of wire or something like that, to a scratcher, and, as I recall, we had 250 pounds of annealed wire left over from my earlier operations.

Q.233: And what relationship did the annealed wire bear to these cross wires?

A. It was what caused those wires to be crossed.

Q.234: After you had run out this annealed wire, what type of wire did you use?

A. Oil tempered wire.

Q.235: What gage?

A. Used some 14, some 15 and some 13. We settled on 14 as the standard type.

Q.236: There has been marked for identification here as Applicant's Exhibit 38 a scratcher. Will you tell me what that scratcher is?

A. Yes, that is the type of scratcher that was made by Frantz. I would say this type of scratcher began after the first thirty days that he manufactured the scratcher, or near about that.

Q.237: Who designed that scratcher? [2647-64]

A. I designed it.

(Deposition of J. E. Hall, Sr.)

Q.238: Can you tell me whether that scratcher is made with the half collar or the full collar?

Mr. Lyon: I object to that on the ground that the scratcher itself is the best evidence.

A. That is made by a full length of material, making the collar, with one weld, apparently. That is what we call the slit type scratcher.

Q.239: What do you mean by slit type?

A. That was the type of scratcher that we put over upset pipe. You notice these two little slit places on the opposite side from the weld in the collars. That was so that if we had to put them on the pipe with upset pipe they would go over the head, or perhaps it was welded afterwards. I don't know what time it could have been welded. We could cut the weld and open it up and put that on the pipe. If we didn't have those slits, we couldn't open it up and get it back in good shape. That is these things here.

Q.240: You are referring to a diagonal slit that appears along near the edge of the collar?

A. Yes. And also at the time that we made this stuff and we made the die to cut it with, cut the material, had the material cut at an angle, so that we would not have a half hole, like is in the earlier scratchers [2647-65] that I had made, the half collars. Here we were overcoming the half hole, and we were making another weld, and we were welding to the body on top of it, instead of up through the holes.

Q.241: Can you tell me whether this scratcher,

(Deposition of J. E. Hall, Sr.)

Exhibit 38, has the large head rivets or small head rivets?

Mr. Lyon: That is objected to as leading.

A. This rivet is a rivet that we found, harness type of rivet, with a very thin head, not like the head in the former rivets.

Q.242: You are referring to the rivets in the half collar, Exhibit 36?

A. Yes, and also the whole scratcher.

Q.243: You are referring to Exhibit 37?

A. Yes.

Q.244: Can you tell me what type of wire was used in Exhibit 36? Was it annealed wire or tempered wire?

A. Tempered wire.

Q.245: How are you able to determine that?

A. Simply because if this wire had had to be hot to be tempered, there would be various bends in the wire, and it would also have taken an unwind. In order to temper, to heat it, you had to put about ten to fifteen pounds springs in and heat it up hot, [2647-66] and the weight of those springs will cause irregularities in the finger, as you will notice in Exhibit 36.

Q.246: If it took an unwind, what would the result be?

A. The spring fingers would be crossed, as they are in Exhibit 36. [2647-67]

* * *

Q.262: What determined the disposition of the

(Deposition of J. E. Hall, Sr.)

springs [2647-71] in the holes of the collar in Exhibit 37?

A. The degree that we set the eye on the inside of the shank to be held at a radii with the collar determined or held the coil at the angle that we desired to have the finger held, as the coil holds the fingers.

Q.263: What is the eye you refer to in your answer?

A. The eye is where the rivet goes through, which holds the spring in position.

Q.264: Whose design was that?

Mr. Lyon: That is objected to as immaterial.

A. That was my design. [2647-72]

* * *

Mr. Scofield: During the cross-examination of Mr. Jones in the California depositions, there were marked for identification as Applicant's Exhibit 4 some pages from a report that Mr. Berdine made directly to the Union Oil Company on the Jones and Berdine tests. Counsel for petitioner objected to the offer of the photostatic copies, and due to the fact also that it was only a partial part of the full report that was made, and in looking over the depositions I see that we adjourned for the day, and I indicated on the record that I would produce the original report, so these pages could be [2647-77] identified.

* * *

Mr. Scofield: I am not offering any explanation for the report in any regard. I am offering the

(Deposition of J. E. Hall, Sr.)

report in evidence. Your objections, of course, are on the record as you see fit. This is the applicant's Exhibit No. 4, and I will furnish you with the necessary copies of the report for the Patent Office. [2647-79]

* * *

Mr. Scofield: I show you another letter which has been marked for identification as Applicant's Exhibit 51, which is dated January 5, 1944, a two-page carbon copy, and ask you if you can identify that letter? A. I can.

Q.297: Do you know the source from which these letters were obtained? [2647-84] A. I do.

Q.298: What was it?

A. It was obtained out of my files.

Q.299: Where were your files?

A. The files were in the old office that I have at Weatherford, Texas.

Q.300: Do you recall having written this letter on or about the date that appears on the letter?

Mr. Lyon: That is objected to as leading.

A. I do.

Q.301: Does that letter assist you in the determination of when the Applicant's Exhibit 49 was produced?

Mr. Lyon: That is objected to as leading.

A. It does.

Q.302: Why were you writing John in the first part of January in 1944 with respect to this scratcher?

(Deposition of J. E. Hall, Sr.)

Mr. Lyon: That is objected to as immaterial and calling for a state of mind.

A. Because there were—he reported to me that there were certain requirements of a close tolerance scratcher.

Mr. Scofield: I will offer the carbon copy which has been marked for identification Applicant's Exhibit 51, a letter dated January 5, 1944, addressed to John [2647-85] Hall and signed in typewritten signature by Jesse E. Hall. [2647-86]

* * *

Q.335: Did you hear Mr. Doble testify on behalf of the petitioner in California?

A. I certainly did.

Q.336: Did you see the scratchers which he made up, or which he had made up, to be replicas of the scratchers shown in Exhibits Z and Z1, which I put before you? A. I did.

Q.337: I show you Petitioner's Exhibit JJ and ask you whether you recall the scratcher that is shown in that photograph?

A. Yes, I recall it.

Q.338: Did you hear him testify with respect to that being a replica of one of the scratchers which was shown in your advertising?

A. I did. [2647-93]

* * *

Q.339: In your opinion, is the scratcher shown in Petitioner's Exhibit JJ a replica of the scratcher

(Deposition of J. E. Hall, Sr.)

which is shown in the advertising which appeared in the Oil Weekly of July 7, and as shown in the cuts which are before you, Exhibits Z and Z1?

Mr. Lyon: That is objected to as calling for a conclusion and opinion of the witness, the exhibits themselves are the best evidence.

A. It is positively not.

Q.340: Well, explain why you have stated that it is not a replica.

A. The coils are in the holes at a radii, and the coils in the holes of the advertising of Exhibit Z and in the holes at very much of an angle. The coil springs coming off of the coils, the fingers coming off of the coils, in Exhibit Z come off at the angle of the wrap of the spring. The fingers in Exhibit JJ come off the coils at a cantered position.

The inside hole in the arm where the rivets hold the springs to the scratcher in Exhibit JJ is parallel to the coils in the spring. [2647-94]

The inside holding arms in Exhibit Z is cantered to the coils. This cantering position is a degree that holds the coil spring at an angle in the holes.

Q.341: Are the holding arms you have referred to in the last answer the cross-over wires inside of the collar through which the rivet passes to hold the wires?

A. They are, and for those reasons are the reasons that I made the statement that it is not a reproduction or any part of it. Every angle of the

(Deposition of J. E. Hall, Sr.)

springs or every major feature of the springs was changed.

Q.342: Attached to Petitioner's Exhibit JJ are plan views of scratchers showing wires extending from the collar. These photographs are Exhibit V, Exhibit W and Exhibit X. Now, do those wires indicate the angle of the wires with the collar which the wires bore to the collar in Exhibits Z or Z1?

Mr. Lyon: That is objected to as leading, grossly so.

A. No, they do not, not anywhere near.

Q.343: Is the angle in Exhibits Z and Z1 greater or lesser than the angle shown in Exhibits V and W and X?

Mr. Lyon: Objected to as indefinite, and also as leading.

A. Taking a start from the radii of the collar, the angle in Exhibit V is much greater than the angle in [2647-95] Exhibit Z, not any close comparison.

Q.344: Do you mean to indicate that the angle of the wires with the collar is greater in V, W and X than the angle which the wires have or make with the collar in Exhibit Z?

A. That is correct.

* * *

Q.345: Now, what do you mean in your last answer, that the angle, which the wire makes with the collar in V is greater than the angle made with the collar in Exhibit Z?

A. In the angle related, the finger related, to

Deposition of J. E. Hall, Sr.)

the collar in Exhibit Z is much less from the radii than the angle in Exhibit V.

Q.346: Then what you were doing was taking the angle from the extension of the radii——

A. That is correct. [2647-96]

* * *

Q.348: Now, I would like to have you state whether the angle which the wire makes with the collar, that is the angle between the wire and the collar, is greater in Exhibit V or less than the angle which the wires make with the collar in Exhibit Z?

Mr. Lyon: That is objected to as leading, grossly so.

A. They are greater in Exhibit V.

Q.349: That is, it is your belief that the angle which the wire makes with the collar, that each one of these wires makes with the collar, is greater in V than it is in Z?

Mr. Lyon: That is objected to as already asked and answered several times.

A. Yes, they are, from the radii in the collar.

Q.350: Now, I would like to have you look at the photograph, Petitioner's Exhibit CC. I will ask you whether or not you can identify the scratcher that is shown there. Just refer to this. Do you recall Mr. Doble testifying with respect to that scratcher? [2647-97]

* * *

A. Yes, I remember the scratcher very well, as

(Deposition of J. E. Hall, Sr.)

I was shocked to find the irregularities in this scratcher when I made an examination. I also noticed with the examination of this scratcher when I were making it, from then on, and the records will bear it out, that Mr. Doble was trying to dodge the issue that he didn't make it; before I examined it, why he had taken all responsibility of making this scratcher. [2647-98]

* * *

Q.359: Do the wires extend from the collar in Exhibit CC at the same or at a different angle from the manner in which the coils extend from the scratcher shown in Exhibit Z?

Mr. Lyon: That is objected to; it is entirely immaterial.

A. That is one of the major things that I mentioned that I noticed. That discrepancy was bad. The wires extend at a different angle.

Q.360: Won't you explain that a little more, what you mean by a different angle in the two exhibits? Take first Exhibit CC.

A. The wires extend at a different angle at Exhibit CC, not in the two exhibits.

Q.361: Extend at a different angle from what?

A. The top row extends at a greater angle, or a lesser angle, from the radii than the bottom angle—the bottom row.

Q.362: Is that true for Exhibit Z?

A. That is not. The only reason, I could see they are very careful to take the photograph with

(Deposition of J. E. Hall, Sr.)

the top row up, or a misleading position. The bottom row, the angle of the scratcher fingers are of a greater degree from the radii, the bottom row having a different length than the top row, which is not according to [2647-100] Exhibit ZZ, or according to no other scratchers that I have ever made.

Q.363: In your last answer, you are referring to Exhibit Z or ZZ? You said ZZ.

A. To Z. As I have pointed out, the difference in the anchoring, the difference in the coil, the difference in the spring extending in a different angle, and the difference in length, and those four major differences relating to the coil, and I cannot conceive any other difference that could be injected into the installation of the scratcher of the coil.

Q.364: Do you consider that the scratcher shown in Exhibit CC is a duplicate or a replica of the scratcher shown in Exhibit Z?

A. Not in any part; it is grossly away from it.

* * *

Q.366: Had you manufactured a scratcher shown in either of the drawings 39B and 39C, excepting the ones shown in the small figure 3 of 39B, more than one [2647-101] year prior to the date of the filing of your application on November 6, 1945?

Mr. Lyon: That is objected to as leading.

A. I have not.

Q.367: On how many occasions did you go out to Dominguez Hill to see the Jones and Berdine tests?

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A. I don't recall now. I only can recall two occasions at that time.

Q.368: Did you have a device that was being tested by Jones and Berdine? A. I did.

Q.369: What was it?

A. A spiral centralizer, manufactured by the Coast Oil Field Manufacturing Company.

Q.370: Do you know whether it was tested first or last, or when it was tested during the sequence of the different tests made at Jones and Berdine?

A. It was tested last; as I recall, it was tested on the ninth run.

Q.371: Do you have any reason for remembering the fact that it was tested last?

A. Yes, I have more than one reason.

Q.372: Will you state them?

A. I followed some cement billets that was laid up, or the test followed those, and checking the Union [2647-102] Oil Company report, I recall the billets that I saw ahead of the test that I made, which caused me to realize that I was there just after they were made. I were there on the ninth run.

Q.373: How many billets did you see?

A. I believe there were four.

Q.374: Did you witness any of the tests on any of the other apparatus?

A. I were there while they were making some tests on it. I don't believe that you would understand why—to answer your question—you would understand what the witnesses could mean, unless I give you an explanation.

(Deposition of J. E. Hall, Sr.)

Q.375: Well, give me whatever explanation you have as to what you saw there with respect to the tests that were being made.

A. Their simulated well was constructed beside oil tanks. The Union Oil Company had an operator that stayed up on top, that done the hoisting, and I never went up on the tanks. I never seen anyone else going up on the tanks. I understood they were making some tests on some of the scratchers, but I don't know what they did or anything about it. I only know that they ran a pump and that they moved the hoist up and down. That is all I know. [2647-103]

Q.376: Did you ever talk to Jones personally with regard to the tests that were being made on your Cosco guide?

A. I talked to him after the test was made. I never saw Jones during the testing of the guide.

Q.377: Whom did you talk to, if you talked to anybody, with respect to the tests that were to be made on your Cosco guide?

A. I talked to Berdine.

Q.378: Did you know him? A. Yes.

Q.379: Did you tell him how to mount the Cosco guide, or did he know how to mount them without your instructions?

Mr. Lyon: That is objected to as absolutely immaterial, and also as leading and suggestive.

A. Well, I told him how to mount it, as well as left some of the literature with him.

Q.380: Did you see them mounted?

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A. Yes, I saw them on the piece of pipe, two of them.

Q.381: Were you there when your particular Cosco guides were run?

A. I were there when one of them was run.

Q.382: What do you mean by one of them?

A. There were two tests run.

Q.383: Of the Cosco guides? A. Yes.

* * *

Q.388: What I want to know is whether you were [2647-105] actually present when any of the B & W scratchers were run, besides seeing these billets after they were run?

A. That would be a hard question to answer positively. I couldn't swear that I was present, but I am sure that I was, because they was operating the thing, and that was my understanding.

Q.389: Does that mean that you were there when they were run, or that you were there while they were running something?

A. I imagine while they were running something. I couldn't see through the pipe to know what they were running.

Q.390: So you are not certain of the fact that they were actually running B & W scratchers?

A. No, I am not.

Q.391: Now, have you on any occasion ever had reason to write to anybody with respect to these Jones and Berdine tests, before this controversy arose with B & W?

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A. Yes, I have had several occasions to write and to go see people about this Jones and Berdine test, prior to this controversy.

Q.392: Now, my inquiry is solely as to any writing that you have made concerning the Jones and Berdine tests, [2647-106] dated prior to the time that there was any controversy whatsoever with B & W.

A. I wrote a report or analysis of the art to some members of the Sun Oil Company, that there had been some complaints made in Corpus Christi, Texas, and I mailed them, and sent a letter explaining to my son, John, to carry to Mr. English.

Q.393: I am not interested in any writing that you may have made concerning the art. I am asking you whether you ever on any occasion wrote to anybody concerning the Jones and Berdine tests prior to the time that any controversy arose with B & W or with Mr. Kenneth Wright.

A. I have.

Q.394: Do you know approximately the date of that writing?

A. No, I don't, as I wrote many, many letters, but I could check the letter.

Q.395: Do you know whether such a letter is in existence? A. Yes.

Q.396: Do you know what year the letter is dated?

A. As I recall, it was dated in 1942.

Q.397: Do you know to whom the letter was directed? [2647-107]

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A. It was either directed to Mr. English or Mr. Marston of the Sun Oil Company, at Corpus Christi, Texas.

Q.398: Where was Mr. English located when you wrote this letter?

A. I wrote the letter to Corpus Christi; whichever one I wrote it to was located at Corpus Christi, Texas.

Q.399: And who was Mr. English employed by?

A. The Sun Oil Company.

Q.400: And where was Mr. Marston located?

A. Mr. Marston, I believe, was located in Dallas, or there could have been possibly one of them was located in Dallas and one of them was located in Corpus Christi.

Q.401: And why were you writing to Mr. English?

A. Because of a report that I had that Mr. Barkis had been complaining to him of the scratcher that I was selling.

Q.402: You have indicated that this was a report. What do you mean by that? Was it a report or a letter, or just what was it?

A. My son, John, was working in that territory, and he had written me a letter of the extent of complaint [2647-108] that the Sun Oil Company had made.

Q.403: Did you have a distributor at that time?

A. Yes, I did.

Q.404: Who was that?

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A. At that time we were using the Frick-Reid Supply stores as our distributors.

Q.405: I show you a folder that has been offered here as Petitioner's Exhibit 4N. Can you identify that? A. Yes.

Q.406: What is it?

A. This is a folder or a catalog that I had made, setting forth what I had to sell in 1942.

Q.407: Was that the earliest advertising folder that you used?

A. No, we had used that Acme scratcher folder as a price list, to take the place of a catalog. I had used other folders to sell centralizers with.

Q.408: What is the Acme catalog folder you refer to?

A. Exhibit Z. It specified the price, and it specified the article and the description, the same as the catalog does.

Q.409: Now, this Exhibit Z appeared in the Oil Weekly, did it not?

A. That is correct. [2647-109]

Q.410: And did you also use this as an advertising sheet?

A. Yes, I had many other sheets—I call them reruns—made, and they were leaflets. They were handed out as a catalog.

Q.411: When did you begin using this leaflet which you say was printed at the same time and was a replica of this Exhibit Z?

A. Well, I would have to see to answer that. As quick as I receive them, in many occasions we

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received the reruns prior to the publication in the magazine.

Q.412: So that it was probably some time in July of 1941?

A. It could have been in July of '41, and it could have been near after. I would rather think in this case they were received before the issue came out.

Q.413: Why do you say that?

A. Because I didn't have any literature on that, and I was anxious to get something, and as quick as they were set up to run this page for the magazine, why they could have run me the reruns.

Q.414: How soon after you had these Exhibit Z sheets made as advertising did you use the folder, Exhibit [2647-110] 4N, Petitioner's Exhibit 4N?

A. I made a contract—to get time, I made a contract with Frick-Reid. The folder was made immediately after the contract, within a month, or something like that. If I could see the contract, I could give you a close date on it. [2647-111]

* * *

Q.416: Can you identify the contract?

A. I can.

Q.417: Would that help you at all in determining when you made your arrangement with Frick-Reid?

A. Yes. I made this contract on the 5th day of August, 1941. I made the contract, I was in Tulsa, Oklahoma. Immediately after making the contract, they sent me to see their publicity man in

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Shreveport, Louisiana, Bryan and Bryan, and there I negotiated the making of that catalog. [2647-112]

* * *

Q.420: Does the fact that Frick-Reid was your distributor bear any relationship to the English letter which you have previously referred to in one of your answers?

Mr. Lyon: That is objected to as leading.

A. Yes.

Q.421: In what respect?

A. I believe that we used the mail box in Corpus Christi as listed in Frick-Reid's name.

Q.422: What do you mean by that, you used it?

A. Sent mail to that particular box.

* * *

Q.423: At the close of this morning's session, I was examining you on a letter which you wrote to Mr. English with respect to Jones and Berdine. I show you a letter dated March 23, 1942, and ask you whether or not you can identify that letter. [2647-114]

(The letter is handed to Mr. Lyon.)

Mr. Lyon: I object to it on the ground that it is totally incompetent, irrelevant and immaterial and hearsay and self-serving declaration.

A. I can.

Q.424: Is that your signature on that letter?

A. It is not.

Q.425: Whose is it? Do you know?

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A. Howard Cherry, my bookkeeper.

Q.426: Where was Howard Cherry employed by you?

A. He was employed by me in Weatherford, Texas.

Q.427: Do you recall having sent this letter?

A. I did.

Q.428: Did you dictate the letter?

A. I did.

Q.429: Along about the fourth sentence from the last there is a statement which I would like to have you read, not on the record, but I would like to have you, after reading the statement, state on the record whether or not that refreshes your recollection as to the matter of sending this letter to Mr. English.

A. It does. [2647-115]

* * *

Q.430: Mr. Hall, let me ask you where this letter was found, if you know?

A. Found in my office.

Q.431: Where? [2647-116]

A. Weatherford, Texas, in a box.

Q.432: What did the box contain?

Mr. Lyon: That is objected to on the ground that what the box contained, the box itself and its contents are the best evidence.

A. It contained a lot of old files, letters and one thing and another.

Q.433: When was it found?

A. Last week.

Mr. Scofield: To indicate to the Patent Office the

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character of reproduction of the documents, I will offer the original letter of March 23, 1942, which the witness has identified, as Applicant's Exhibit 56; the offset copy as Applicant's Exhibit 56A.

* * *

Q.434: I show you a letter dated March 24, 1942, a five-page letter, addressed to Mr. R. L. English, Box 199, or 1999, Corpus Christi, Texas, care of Mr. John Hall. Can you identify that [2647-117] letter? A. Yes, sir.

Q.435: Do you recall having written that letter on or about the date that appears upon the first page of the letter?

Mr. Lyon: That is objected to as immaterial.

A. I dictated it on or about that time.

Q.436: Is this the letter that you referred to in your morning testimony when you indicated that you had written to Mr. English?

A. That is right.

Mr. Lyon: That is objected to as leading.

Q.437: Why was this letter sent in care of Mr. John Hall in Corpus Christi? Do you know?

Mr. Lyon: That is objected to as immaterial.

A. Because he was in that territory at that time, and I wanted to retain certain exhibits that was mentioned in this letter.

Q.438: Is it your signature? Is it your signature signed to this letter?

A. It is not, but my secretary signed it—book-keeper, rather.

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Q.439: Was your secretary in the habit of signing your mail?

A. Very much of it, because I was traveling, and often dictated a letter to him and would not wait [2647-118] until it was written.

Q.440: Where was this letter found?

Mr. Lyon: That is objected to as immaterial.

A. This letter was found in the same box that I found the other letters in, same bunch of files.

Q.441: When was it found?

A. Last week.

Q.442: What was this box of material you have spoken about?

Mr. Lyon: The box is the best evidence. I object to the evidence on that ground.

A. Oh, it was a box of miscellaneous files and patent applications and drawings and whatnot, and letters.

Q.443: Do you have an office in Weatherford?

A. I do.

Q.444: Do you have any files there in Weatherford? A. I do.

Q.445: How does it happen that this letter was not in your regular files?

Mr. Lyon: Objected to as immaterial, also as calling for conclusion.

A. Because of its date, its age. I take the files down, clean out at a certain time, and put in boxes to preserve the older stuff.

Q.446: Can you explain the circumstances why you [2647-119] have the original letter?

A. Yes.

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Q.447: Why do you have the original letter?

A. Because it was given back to me, as I had some of the exhibits that I wanted to retain after they got through reading them, and when they got the exhibits back to me, they give the entire——

Q.448: Were there exhibits sent with this letter?

A. There were.

Q.449: What exhibits were sent with the letter?

Mr. Lyon: That is objected to on the ground that the exhibits themselves are the best evidence.

A. There is Exhibit 1, Exhibit 2, Exhibit 3, Exhibit 4, Exhibit 5 and Exhibit 6.

Q.450: Does the letter indicate that Exhibits accompanied it? A. Yes.

Q.451: Can you tell from the letter what Exhibit was?

A. Yes. It was a type of scratcher functioned about the same as the B & W scratcher functioned.

Q.452: Did you make a search to find these exhibits when you found the letter?

A. I did. I found the exhibits that I have with the letter. [2647-120]

Q.453: I show you a photostat of a drawing, and ask you whether you can identify that?

A. I can.

Q.454: What is it?

A. That is a scratcher that I designed.

Q.455: What is the particular sheet here? Does the sheet indicate?

A. Well, the sheet is made on the Patent Office paper drawing size. It indicates that I at one time

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probably had the intention of writing or preparing an application of it, maybe filing one.

Q.456: In the upper left-hand corner there is a notation, Exhibit 1. Does that mean anything to you?

A. Yes. That correspondence with the Exhibit 1 here, that also is in Howard Cherry's handwriting.

Q.457: Are you acquainted with his handwriting? A. I am.

Q.458: How long was Howard Cherry with you?

A. Oh, possibly three years.

Q.459: What were his duties with you?

A. He was bookkeeper and general office man. He attended to all the shipping and such things of that nature, getting the stuff out, and billing.

Q.460: Was he a stenographer?

A. Yes, he was a stenographer and [2647-121] bookkeeper.

Q.461: Where did this Exhibit 1 which you have before you come from?

Mr. Lyon: Objected to as entirely immaterial.

A. It came from the same box this letter came from.

Q.462: When was it found?

A. Last week.

Q.463: Found at the same time or at a different time from the letter?

A. Found at the same time.

Q.464: Can you tell me from the letter what was sent as Exhibit 2?

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A. Yes. There was an application for a spiral centralizer filed September 3, 1935.

Q.465: Why did you send that?

A. Because it was a development——

Mr. Lyon: Objected to as entirely immaterial.

A. Because it was a tool that was—that I had developed in well bore cleaning and cementing.

Q.466: Did you make a search for it, Exhibit 2 that was sent with the letter? A. I did.

Q.467: Did you find Exhibit 2?

A. No, I did not, because I realized that I had had a lawsuit on the spiral centralizer in [2647-122] make Charles, and that exhibit was probably lost during that lawsuit I got into.

Q.468: Do you know that to be a fact, or is that guess on your part?

A. That is a guess on my part, because all of my files was worked into that lawsuit. That belonged to it, and I never did straighten them back up.

Q.469: I show you a certified copy of an application for patent and ask you whether or not you can identify that?

A. Yes. This is the first spiral centralizer application I filed, 1935. This is serial No. 388,891.

Q.470: Can you tell from the notation in the letter which you find at the bottom of page 3 whether or not this was the application filed, that was sent on?

Mr. Lyon: Objected to as leading and suggestive.

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A. Yes, I can tell.

Q.471: How are you able to identify that application as the application that was sent out as Exhibit 2?

A. Because there is only one I had filed at that date, and the only one that—that is the principal reason; it was a well bore cleaning device.

Q.472: Is the filing date of the application indicated [2647-123] in the letter? A. Yes.

Q.473: What is the filing date of your application 38,891?

A. The letter indicates September 3, 1935. The file wrapper indicates September 3, 1935.

Q.474: Does the letter make reference to any particular part of this application that was filed on September 3, 1935?

Mr. Lyon: That is objected to on the ground that the letter is the best evidence of what it refers to.

A. Well, this makes reference to the—it is a competitive tool which removes filter cake from the bore of the well and centers the pipe.

Q.475: My question was whether the letter makes any reference to any particular part of the application?

A. I don't understand what you are referring to.

Q.476: Won't you read into the record, then, the paragraph which has to do with Exhibit No. 2? You will find it in the last paragraph on page 2 of the letter which is numbered page 3.

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A. The last paragraph?

“Next I developed a spiral casing [2647-124] guide. I filed the application on September 3, 1935. This is a competitive tool to the scratcher, as to removing the filter cake, and centering the pipe. If you will read the objects of this invention Exhibit 2, you will readily see that I was working on filter cake removing devices prior to the time of this patent.”

Q.477: Now, can you answer the question?

A. What was the question?

Mr. Scofield: Read him the question.

(The reporter read the question: “My question was whether the letter makes any reference to any particular part of the application?”)

A. Yes.

Q.478: What part of the application does the letter refer to?

Mr. Lyon: That is objected to as entirely immaterial. The letter speaks for itself.

A. To the part of the application that specified the object of the invention, of removing filter cake and centering the pipe.

Q.479: Can you tell me from the letter that was sent on as Exhibit No. 3?

Mr. Lyon: What was sent on, Exhibit No. 3 is the best evidence of what it is. The witness may testify [2647-125] with relation to it, but the question is objected to on that ground.

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A. Evidently it was a drawing.

Q.480: Did you search for that drawing?

A. I did.

Q.481: Were you able to find the drawing which was sent on with the letter and marked Exhibit 3?

A. No.

Q.482: What was sent on with the letter as Exhibit 4? Can you tell from the letter?

Mr. Lyon: Same objection as to the preceding question. The exhibit itself is the best evidence.

A. Yes, there was a patent sent on, marked Exhibit 4, and was issued October 1, 1912.

Q.483: Did you in your search find the patent which was sent on and marked Exhibit 4?

A. Yes.

Q.484: Where did you find that?

A. Found it with the letter.

Q.485: Does the letter indicate what was sent on as Exhibit 5? Just a minute. I show you copy of a patent, on the outside of which appears a notation, Exhibit 4. Can you tell me what that is?

Mr. Lyon: That is objected to as entirely immaterial. [2647-126]

A. This is the exhibit that is mentioned in this letter, and the handwriting on the Exhibit 4 was prepared by Howard and written by Howard Cherry.

Q.486: Is the patent identified in the letter in any respect?

Mr. Lyon: Objected to on the ground the letter itself is the best evidence as to what it identifies.

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A. Yes, it is identified.

Q.487: How?

A. It was issued October 1, 1912.

Q.488: Do you find that the patent, Exhibit 4, was issued on that date?

A. Yes; October 1, 1912.

Mr. Scofield: I gave you a copy of this, Lewis.

Q.489: Does the letter indicate what was sent on as Exhibit 5?

A. Patent granted to J. C. Jones, March 15, 1921.

Q.490: Did you search for that exhibit?

A. Yes.

Q.491: Did you find it? A. I did.

Q.492: I put before you a patent, on the outside of which appears the notation, Exhibit 5. Can you identify that? [2647-127]

A. I can. That is the handwriting of Howard Cherry, the man that writ the letter for me.

Q.493: Whom was the patent issued to?

A. J. C. Jones, patented March 5, 1921, and corresponded with the statement in the letter.

Q.494: What was sent on with this letter as Exhibit 6?

A. The Phil Jones and Dennis Berdine report.

Q.495: Is it so identified in the letter?

A. It is.

Q.496: Did you make a search for that report?

A. I did.

Q.497: Did you find it? A. I did.

Q.498: I show you a copy of a report, on the

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face of which appears Exhibit 6. Can you identify that?

A. I can. That is Howard Cherry's handwriting, the man that writ the letter, also my stenographer and bookkeeper.

Q.499: Is that the report that was sent on with the letter? A. It was.

Q.500: Now, what exhibits were you unable to find which were sent on with this letter to Mr. English?

A. I was unable to find a drawing. [2647-128]

Q.501: What was the exhibit number?

A. I believe it was Number 3.

Q.502: Is that the only one that you were unable to find?

A. That and the application, which I can explain on.

Q.503: And the application which you refer to was the Exhibit 2? A. Yes.

Q.504: Did you find a drawing that would correspond to the drawing which was sent on as Exhibit 3?

A. Yes; to my opinion. To my opinion——

Q.505: Just a minute. I show you a photostat of a drawing and ask you if you can identify that?

Mr. Lyon: That is objected to as leading and suggestive, incompetent, irrelevant and immaterial.

A. Yes, I can identify that as a drawing of a early scratcher that I worked on.

Q.506: What is your recollection as to what the

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number was of this, or whether or not this drawing was sent on with your letter?

Mr. Lyon: That is objected to as not the best evidence, and leading and suggestive.

A. My recollection that this last drawing, this was Exhibit 1, and that the one that was [2647-129] marked Exhibit 1, that he marked it wrong, and it was Exhibit 3. That is just my recollection of it.

Q.507: I would like to have you put in your own handwriting up in the right-hand corner of the exhibit which you have just identified the exhibit number that you think should have been noted on the drawing when it was sent with the letter.

A. (The witness complies with the request.)

Q.508: Now, put inside of the border line in the right-hand corner—no, wait a minute—put inside of the border line in the upper left-hand corner that the exhibit number was that was put on the drawing when it was sent with the letter, and put your initials——

Mr. Lyon: That is objected to as calling for a conclusion of the witness.

Q.509: ——opposite. No, inside, inside.

A. In here?

Q.510: Yes. Now, put in there the exhibit number that was put on the drawing when it was sent to Mr. English.

Mr. Lyon: That is objected to as calling for a conclusion of the witness and no proper foundation laid.

A. (The witness complies with the request.)

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Q.511: Put your initials after that Exhibit 3.

A. (The witness complies with the [2647-130] request.)

Q.512: Also put your initials by the other exhibit number which you have put in the upper right-hand corner.

A. (The witness complies with the request.)

Q.513: Now, I would like to have you mark on Exhibit 1 in the upper right-hand corner the exhibit number which this particular drawing should have been marked—no, put it below.

A. (The witness complies with the request.)

Q.514: Did you check this letter before it was sent to Mr. Inglish? A. I did not.

Q.515: How are you able to state that at this time?

A. Because I never saw the letters, only I remember dictating it.

Q.516: How does it occur that you did not check the letter and check the numbers of the exhibits?

A. Because I were working in the field. When I would go in to check up on everything, I would generally give him—answer all my mail. He would take it down in shorthand, and then the letters was written after I was gone. Sometimes I would give him enough mail, enough dictation, to last him for two or three days. [2647-131]

Q.517: Was there any indication in this correspondence that has been submitted to you here that you left town on this particular day or the day before? And I call your attention to the letter writ-

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n to your son, John Hall, which has the date of
arch 23, 1942. A. Yes, I recall——

Mr. Lyon: That is objected to as leading and
uggestive, grossly so.

A. I recall the letter, because I found it in this
x. I remember it very well. This letter mentions
e fact that I would be going away.

Q.518: Would you read into the record that part
of the letter which so indicates?

Mr. Lyon: That is objected to on the ground
that the letter speaks for itself.

A. "I am of the opinion that I will leave to be
the territory about thirty days."

Q.519: Does that have anything to do with your
going away?

A. No, that is—yes.

"I will prepare something to try to win the con-
fidence of English of the Sun Oil Company, I hope
to get off to West Texas tomorrow, where I will
probably spend the balance of the week." [2647-132]

Mr. Scofield: I have marked 56 the letter of the
3rd. I think I have both the original and the offset
copy. Have you a copy of the 24th letter, Lewis?

Mr. Lyon: Yes.

Mr. Scofield: I request that the reporter mark
the offset copy of the letter of March 24, which is
four pages, signed J. E. Hall, initialed below the
signature "H. by H. C.," addressed to Mr. R. L.
English, care of John Hall, Box 199, Corpus Christi,
Texas, as Applicant's Exhibit No. 57. [2647-133]

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Q.531: What did that have to do with Mr. Inglish? [2647-137]

A. Well, Mr. Inglish had reported a complaint to them pertaining to patent matters and one thing and another.

Mr. Lyon: That is objected to as a hearsay statement. I move that it be stricken on the ground it is pure hearsay.

Q.532: Did you write the letter?

A. I did.

Q.533: Does your signature appear on the letter? A. It does.

Q.534: Do you recall having written this letter on or about the date that appears on the letter?

Mr. Lyon: That is objected to as leading.

A. I recall a number of letters, and I recall this specific instance. It was quite a thing to prepare.

Q.535: Where did you find this letter?

A. I found it in the box, in the files stowed away with the other letters.

Q.536: Was it with the other correspondence that you have produced here?

A. It was with the same box.

Mr. Scofield: I request that the letter dated April 15, addressed to "Dear John and Shirley," be marked as Exhibit 58 for identification. [2647-138]

(The letter referred to was marked as requested, Applicant's Exhibit 58.)

Q.537: Who is Shirley?

A. My son John's wife.

(Deposition of J. E. Hall, Sr.)

Mr. Scofield: I now offer the letter which was marked for identification as Exhibit 57, said letter being a letter addressed to Mr. Inglish, Mr. R. L. Inglish, and signed J. E. Hall by H. C.

Mr. Lyon: I object to the offer as incompetent, irrelevant and immaterial, entirely hearsay, and having been neither properly proven or identified in any way, and as pure hearsay, as far as this party is concerned.

Mr. Scofield: I offer the Exhibit 1, drawing, which has been marked for identification as Exhibit 57A.

Mr. Lyon: Same objection to the offer of the exhibit.

Mr. Scofield: I offer the offset of the title page, that is the power of attorney, first three pages of the specification, of Serial No. 38891, application, which has been marked for identification as Exhibit 57B.

Mr. Lyon: I object to the offer, and I object to any fragmentary offer of the document stated in this office, as an incomplete offer of the material referred to, and I further object to it as incompetent, irrelevant and immaterial, and for the same reasons [2647-139] expressed in connection with the offer of Exhibit 57.

Mr. Scofield: I offer the drawing which was marked by the witness as Exhibit 3, and which has been marked here for identification as Exhibit 57C.

Mr. Lyon: I object to this offer as obviously incompetent, irrelevant and immaterial, not prop-

(Deposition of J. E. Hall, Sr.)

erly proven or identified, mere hearsay, and as immaterial to any issue in this matter.

Mr. Scofield: I offer the copy of the Batt Patent, which was marked for identification as Exhibit 57D.

Mr. Lyon: I object to the offer of this Batt Patent as in any way assertedly connected with the self-serving declaration of Exhibit 57. I have no objection to the offer of a soft copy of the United States letter patent for its showing as a patent.

Mr. Scofield: I offer the Jones Patent, 1371475, which was marked Exhibit 5 as Exhibit 57E here for identification.

Mr. Lyon: I object to this offer for precisely the same reasons as stated in my objection to the offer of the Batt Patent.

Mr. Scofield: I offer the cover page of the Jones and Berdine report which was marked as Exhibit 6 and has been identified here as [2647-140] Exhibit 57F.

* * *

Mr. Scofield: I also offer at this time the three pages of drawings which have been marked for identification and referred to by a number of the witnesses as Exhibits 39A, 39B and 39C, the same being the drawings of the Hall Application 38891, the drawings Serial 627013 and Serial [2647-141] 556619.

* * *

Q.568: Did you sit through the testimony or the deposition that was given by Mr. Jones with regard

(Deposition of J. E. Hall, Sr.)

to the Jones and Berdine tests that were made by the Union Oil Company?

A. I sat through while Mr. Jones gave the Jones and Berdine test; I didn't sit through all of Mr. Jones' deposition.

Q.569: Did you hear him testify with respect to the rotation of the B & W scratchers in the tests that were made at Dominguez Hill?

A. I did.

Q.570: I show you a photograph which was offered as Petitioner's Exhibit F and ask if you can identify that particular scratcher that is shown mounted there? Just refer to F. [2647-149]

A. I can identify it was the scratcher he testified to.

Q.571: Do you recall Mr. Barkis testifying with regard to the pattern that was made on the cement billet which appears second from the left in Exhibit H? A. I did.

Q.572: Have you any opinion as to whether or not the scratcher Exhibit F rotated in the test, having in mind that it made the billet which is shown in Exhibit K, both of which figures are before you, and which are exhibits taken from the Jones and Berdine article? [2647-150]

* * *

A. That is nothing to indicate the rotation of the scratcher, and there is definite features to indicate that it did not rotate.

Q.578: What are the features that indicate that it did not rotate?

(Deposition of J. E. Hall, Sr.)

A. The features that indicate that it did not rotate, where the cement is chipped away, the most [2647-151] outside diameter length of the scratchers where they were bent in the square U form, appear to be at a much smaller diameter than the billets themselves.

* * *

Q.579: Could the scratcher shown in Exhibit F obtain rotation from the well bore?

Mr. Lyon: That is objected to on the ground that the witness has in no way been qualified to answer the question, and it is incompetent, irrelevant and immaterial.

A. No, because they was to be of a smaller diameter than the well bore.

Q.580: How is it shown that the scratchers were of a smaller diameter than the well bore?

A. Well, at the top of the page——

Q.581: What are you referring to?

A. Exhibit K, marked, I see, a C on the middle, a little above the middle of the right-hand side at the top of that column, it can be readily seen that the length of the wires, outstanding wires were not the diameter of the billet itself.

Q.582: Were the wire lengths of the [2647-152] scratcher sufficient to reach the exterior surface of the billet?

Mr. Lyon: That is objected to on the ground the witness is in no way qualified to answer the question.

(Deposition of J. E. Hall, Sr.)

A. According to this wire length showed in this photograph here, there weren't.

Q.583: Would it be necessary for the wires to contact the well bore to cause rotation?

Mr. Lyon: That is objected to as calling for a conclusion of the witness; the witness has been in no way qualified to answer the question.

A. It would be necessary for the wires to contact the well bore, simulated well bore, on at least two sides or more of the simulated well bore.

Q.584: How do you think there was obtained any cleaning action of any sort with those scratchers, if the wires were not sufficiently long to reach the canvas bag which formed the inside surface of the well bore?

Mr. Lyon: That is objected to on the ground that the witness is in no way qualified to answer the question.

A. It would naturally, with the simulated pipe that was worked up and down, wouldn't swing exactly in the center, and it would have to drag to one wall, no matter how short they would be, perhaps.

Q.585: Is there any indication of any [2647-153] sort on either of the billets shown in Exhibit K that the scratchers which are shown partially by chopping away the billets, rotated?

Mr. Lyon: That is objected to as calling for a conclusion of the witness, as incompetent, irrelevant and immaterial.

A. There is absolutely no indication in the billets

(Deposition of J. E. Hall, Sr.)

or in the description of the operation, that they rotated.

Q.586: In your opinion, was the test upon this particular scratcher a proper test of the cleaning ability of a scratcher of this sort as tested by Jones and Berdine?

Mr. Lyon: That is objected to as calling for an expression of an opinion of this witness, and obviously incompetent, irrelevant and immaterial; on the further ground that the witness has been in no way qualified to answer the question.

A. You mean an oil well?

* * *

A. No. [2647-154]

Q.587: Why?

Mr. Lyon: Same objection.

A. Number 1, the bristles are not long enough to reach the well bore; number 2, if bristles bend in the U-form where the side of the wire would drag against the wall of the well, where the wall of the well is mainly made up with abrasives, sand, they would entirely grind off in a very short travel.

Q.588: What do you mean by a very short travel?

A. As it would pass into a well bore, where you have a bend in the wire, it rubs against the well bore with the weight of the pipe, even though it is not long enough to reach all the way around, it will wear off immediately.

Q.589: Is it your belief that the wires shown in

(Deposition of J. E. Hall, Sr.)

the scratcher in Exhibit F would wear off before they got to the bottom?

Mr. Lyon: That is objected to as leading and suggestive, calling for a conclusion of the witness, and the witness is in no way qualified to answer the question.

A. Absolutely, and in my experience of all the wires of scratchers in many wells that I have saw pulled out, and tests that I have run, that if the side of the wire strikes against the wall of the well, it will immediately fall in two at that [2647-155] place.

Q.590: What do you mean by fall in two?

A. It will break in two. The only way that you can run a wire in the hole and keep it from breaking off or falling off is to keep the wire straight and let the ends of the wire rub against the bore of the well.

Q.591: What would have become of these wires, in your opinion, if they had been run in an actual well bore and——

Mr. Lyon: Same objection.

Q.592: ——the wires were sufficiently long to have friction contact with the well bore?

A. The wires would immediately fall off at the bend, and you would only have a radial wire left, a radial portion.

Q.593: What would wear them off?

A. The abrasives of the well bore.

Q.594: To your knowledge, did B & W ever offer a scratcher such as that shown in Exhibit F?

(Deposition of J. E. Hall, Sr.)

Mr. Lyon: That is objected to on the ground that the witness is in no way qualified to answer the question.

A. I have no knowledge of them ever offering a scratcher as in Exhibit F. I might state that I have checked all the literature and various stocks and stores of their type of scratcher, and I have never saw such a [2647-156] scratcher offered to the trade in any way, shape, fashion or form.

Q.595: I call your attention to the scratcher shown in Exhibit G. The billet made by that scratcher is shown second from the left in Exhibit H. Is there any indication to you from examination of the billet that the scratcher rotated during the Jones and Berdine tests?

Mr. Lyon: That is objected to as entirely immaterial, as incompetent, irrelevant and immaterial, and no foundation laid.

A. There is absolutely no indication of rotation on this billet.

Q.596: Is there any indication that the ends of the scratcher extended to the surface of the billet?

Mr. Lyon: That is objected to on the ground the witness is in no way qualified to answer the question.

A. There is indication that it did not extend to the surface of the billet.

Q.597: What is the indication that the scratcher wires did not extend to the surface?

Mr. Lyon: Same objection as to the preceding question.

(Deposition of J. E. Hall, Sr.)

A. If the scratcher wires had extended to the surface of the billet, there would have been a cleaning action; where there was a cleaning [2647-157] action, there would be a deposit of cement; where there wasn't a cleaning action, it would have still left the mud, and when they washed the billet off with water, it would have been a solid billet of cement, instead of grooves where it showed that it was not clean.

Q.598: Is there any indication in or upon the billet shown in Exhibit H that the scratcher rotated at the reversal point?

Mr. Lyon: That is objected to on the ground that the witness is in no way qualified to answer the question.

A. At the end of the reversal point marked Barkis 3 there is a definite indication that the scratcher did not rotate.

Q.599: What is that indication?

A. The indication is two reasons.

First, if it would have rotated at that point in the reversal, there would have been a greater cleaning action there than in the main part of the travel, and that shows at the end of it that there were less cement deposited on account of the indentations in it.

Second, which is another definite indication it did not rotate, the ends of each line of cement are of differing lengths. Those different lengths will correspond to the hunts of scratcher fingers upon the scratcher. If you will notice, the hunt will start at

(Deposition of J. E. Hall, Sr.)

the top of the [2647-158] band, and as it goes around, it will go to the bottom of the band and that indication proves very plainly on this billet, if the scratcher would have rotated as at the point of reciprocation, if each time it would have made a different reciprocation while the mud was being cleaned off, it would have plotted out a hunt—the scratcher fingers in the hunt and all the indentations or all of the cement deposits would be of the same length.

Q.600: Is the location where the scratcher changed direction indicated on that billet?

A. Yes.

Q. Is it so marked? A. It is.

Q.602: How is it marked on the margin?

A. Barkis 3.

Q.603: Is the upper end where the direction was changed also marked? A. Yes.

Q.604: How was that marked?

A. B, with an arrow pointing to it.

Q.605: Is there any indication at either of those points that this particular scratcher shown in Exhibit G rotated on the casing?

Mr. Lyon: That is objected to for the same reason [2647-159] as previously stated; the witness is in no way qualified to answer the question; incompetent, irrelevant and immaterial as to what this witness thinks. A. Absolutely not.

Q.606: Why do you say that?

A. For the various reasons I have explained, that at the bottom travel or upward travel of the

(Deposition of J. E. Hall, Sr.)

point of reversal, the mud should have been cleaned away to a much greater degree than it would be on the straight travel, and also the different lengths that the fingers made would be blotted out. In other words, it shows on each reciprocation that the fingers went down and came out in the same path that they went in with, and that is why you will see different lengths of the lines of cement where the mud was cleaned away.

Q.607: Had the scratcher rotated, and had the wires been sufficiently long to contact the bore of the well, what should have been formed at those reversal points?

Mr. Lyon: That is objected to as leading and suggestive, and as incompetent, irrelevant and immaterial, and on the further ground that the witness is not qualified to answer the question.

A. There should be formed a solid billet more than at those points. [2647-160]

Q.608: What is actually formed?

A. Only just stringers of cement, where each finger passed.

Q.609: I call your attention now to the scratcher which is shown in Exhibit I. The billet made by that scratcher is indicated on the left-hand side of Exhibit J, which is also before you. I will ask you to state whether or not that billet indicates that the wires of the scratcher were long enough to extend to the bore of the well and there have physical contact?

Mr. Lyon: That is objected to on the ground

(Deposition of J. E. Hall, Sr.)

that the witness is in no way qualified to answer the question, and it is incompetent, irrelevant and immaterial as to what his opinion is.

A. It only shows to me that they didn't extend throughout to the bore of the well.

Q.610: What is the basis for that statement?

A. Because the lines that they have made where they have cleaned the mud off and then left the mud are somewhat broken, and if they had passed against the bore of the well with the circulation they would have broken the viscosity of the mud, and cement would have moved in, and you would have had even lines of cement or solid billet.

Q.611: Is there any indication in that billet or on [2647-161] that billet that the wires came to the surface or had frictional contact with the wall?

Mr. Lyon: That is objected to on the ground that the witness is in no way qualified to answer the question.

A. There is not, because it shows that there was a sheaf of mud deposited on the outside.

Q.612: Do you see any of the ends of the scratchers appearing through the billet?

Mr. Lyon: That is objected to as immaterial, as to whether this witness can see them or not.

A. There is no indications of any of the scratcher fingers appearing visible through the billet.

Q.613: Is there any indication on that billet where the scratcher changed direction in its reciprocation? A. Yes, there is.

(Deposition of J. E. Hall, Sr.)

Q.614: How is it marked?

A. With an arrow.

Q.615: How many places are marked?

A. Two places.

Q.616: Had the scratcher rotated at the point indicated by the lead lines or arrows marked "Barkis," what would have actually occurred or been built up on the billet at those points, had the wires reached the [2647-162] surface of the well bore?

Mr. Lyon: That is objected to as a compound, complex question and incompetent, irrelevant and immaterial, and on the further ground that the witness is in no way qualified to answer the question.

A. If the wires had reached the bore of the well, there would have been an even cleanness of deposit, so that the cement would be deposited around the point of reversal, but at the point of reversal, you will notice that the cleanness of the mud was of a much lesser degree than in the main part of the travel. In other words, it was only just little stringers of cement, and the balance was mud. There wasn't a cleaning job there perfected.

Q.617: Does the cement build up where the greater cleanness takes place, or does it build up less?

Mr. Lyon: Same objection as to the preceding question.

A. It builds up more where a greater cleanness, because the scratcher finger will set up a circulation

(Deposition of J. E. Hall, Sr.)

of the mud, and cement will move in and take its place, and those broken places and in the lines between the lines of the cement was where mud was deposited, which was not cleaned away; so, should they have rotated, those lines would have been cleaned away. If there [2647-163] would have been any of them left, there would have been some indication of spiral angling lines for some portion of the travel.

Q.618: Can you explain why there weren't circumferential collars of cement formed at those reversal points, if they rotated at that point, if the scratcher rotated at those points?

Mr. Lyon: That is objected to as leading and suggestive, and incompetent, irrelevant and immaterial, and further that the witness is in no way qualified to answer the question.

Mr. Scofield: Read the question.

(The reporter read the question.)

A. I cannot explain why. I can explain why it would be cement there, and is there, is a positive indication that the scratcher only came down and traveled back upward in its same road of travel.

Mr. Lyon: I move to strike the statement of the witness as not responsive to the question.

Q.619: Which scratcher did the best job of cleaning? And I would like to have you to distinguish, first, between the scratchers shown in Exhibit F and Exhibit G, referring to the billets that were

(Deposition of J. E. Hall, Sr.)

formed, which are Exhibit K and Exhibit H, respectively.

A. Exhibit K has indications of a good cleaning [2647-164] job; Exhibit H has indications of a poor cleaning job.

Q.620: So between H and K you think that the better job was done in the billet shown at K?

A. Yes, on Exhibit J——

Q.621: Now, let me ask you, as between the scratcher that is shown on Exhibit G, which produced the billet H, and the scratcher shown in Exhibit I, which produced the Exhibit J, which, in your opinion, did the best cleaning job?

Mr. Lyon: That is objected to as incompetent, irrelevant and immaterial, and on the further ground that the witness is not qualified to answer the question.

A. The scratcher that cleaned Exhibit J done a very poor cleaning job. That cleaning job was the poorest of the three. In other words, it shows that there is more mud left in between the stringers of cement than they have got cement. I would say that was no cleaning job at all.

Q.622: Is there any indication in any of the billets that were made by these scratchers that any of the scratchers rotated in the test?

Mr. Lyon: That is objected to on the ground that the witness is in no way qualified to answer the question, and it is incompetent, irrelevant and immaterial as to what this witness might consider an indication. [2647-165]

(Deposition of J. E. Hall, Sr.)

A. Absolutely not.

Q.623: Is it your belief that the tests made by Jones and Berdine simulated the conditions actually existing in a well?

A. Absolutely not. [2647-166]

* * *

Q.626: Did you hear the testimony of Mr. Doble given during his deposition given in California?

A. I did.

Q.627: Did you hear his testimony with respect to the test machine that is shown in the photograph, Petitioner's Exhibit KK? A. I did.

Q.628: In your opinion, was the test made on that test machine a proper test or an improper test for the determining of rotatability of the scratchers?

Mr. Lyon: That is objected to on the ground that the witness is in no way qualified to answer the question.

A. It was an improper test.

Q.629: Why?

A. Because the scratchers was run to a diameter not comparable to being found in a well [2647-167] bore, comparing a scratcher bristle length to a well bore.

Q.630: Do I understand you mean that the conditions that were used and employed in the test machine were not comparable to those existing under actual conditions in the field?

Mr. Lyon: Same objection as to the preceding question.

(Deposition of J. E. Hall, Sr.)

A. Absolutely not. Of all the scratchers I have seen run and of all the literature that I have saw, both of B & W and other manufacturers and myself, have all stated that scratchers have to be run in a well simulating a diameter at least two inches to two and a half inches smaller than the O.D. of the bristles.

Q.631: And were any of the scratchers of a diameter two inches greater than the well bore that was used in the test machine?

Mr. Lyon: That is objected to on the ground that the exhibits speak for themselves, and it is incompetent, irrelevant and immaterial.

A. They were not. There were many of these tests run that the end of the bristles would not reach the well bore. May I call your attention to the term that was used in the deposition as a Morse code, where it showed a kind of dot-dash. That was where the bristles were not long enough to track steadily against [2647-168] the well bore, and they only tested them at various intervals.

Q.632: What do you mean by the Morse code dot-dash?

A. If you will check the depositions, you will see that that was an expression used in the depositions of Mr. Doble.

Q.633: I show you a photograph of the pattern of a scratcher, the wall cleaning guide, made upon the interior of one-half of one of the test machine cylinders, the exhibit being offered, the photograph

(Deposition of J. E. Hall, Sr.)

being offered, as Exhibit AAA-1; is that what you refer to—— A. That is correct.

Q.634: ——as this dot-dash Morse code pattern?

A. That is correct.

Q.635: What produced this Morse code pattern, as you have called it?

Mr. Lyon: That is objected to on the ground that the witness is in no way qualified to answer the question.

A. The only thing could have produced it was the finger was too short to reach the wall of the cylinder.

Q.636: If it didn't reach the wall of the cylinder, how would it have produced any pattern at all?

A. It was so close that it could only reach it at certain [2647-169] high spots.

Q.637: And did you ever see a scratcher used under actual well conditions of the diameter that was used in the test well in the California depositions of Mr. Doble? A. Absolutely not.

Q.638: Do you consider that the test well conditions which were used with the test apparatus shown in Exhibit KK were legitimate for the testing of scratcher reversibility or rotatability?

Mr. Lyon: That is objected to on the ground the witness is in no way qualified to answer the question and it is incompetent, irrelevant and immaterial as to what he may think.

A. The sizes used to make the test were not competent to make a test, and I am sure that there was no oil operators would use such a test as a test.

(Deposition of J. E. Hall, Sr.)

Q.639: Have you yourself attempted to duplicate well conditions and make a test to determine the reversibility of the scratchers that are here in controversy? A. I have.

Q.640: Have you produced such a machine?

A. I have produced this demonstrating can that demonstrates different sizes. I have also produced a machine that you can push scratchers through it, so that [2647-170] you can inspect them at simulated well sizes, as they are advertised in the different advertisements, and as are used in the various well sizes.

Q.641: When did you make this machine?

A. I don't have the recollection when the machine was made.

Q.642: Well, was it made before or after the depositions that were taken in California?

A. Well, this machine that I am talking of now was finished or altered afterwards to a portability situation.

Q.643: Did you have the machine before the depositions that were given in California?

A. Yes.

Q.644: Have you made tests on scratchers with it? A. I have.

Q.645: And how did you alter that machine after the California depositions?

A. By taking an engine off of it and putting a motor on it; by making certain platforms that you could stand on, and putting aluminum on it so it

(Deposition of J. E. Hall, Sr.)

could be light and could be handled and be carried around.

Q.646: I show you a photograph, and I will ask reporter [2647-171] to mark it as Applicant's Exhibit 60 for identification.

(The photograph referred to was marked as requested, Applicant's Exhibit 60.)

Q.657: Tell me what that machine is?

A. That is a machine built to put devices through a well casing, a test machine, principally, built for testing scratchers and centralizers.

Q.648: On the top of the machine there appears a sleeve and a ring. What are they?

A. That sleeve and ring——

Q.649: Describe what the sleeve is first.

A. The sleeve is a sleeve representing the casing. The scratcher will go over that sleeve.

Q.650: What is the ring?

A. The ring is put on on the upper end of the sleeve opposite from the lugs that you can see on the sleeve, to pull the scratcher in the hole, and the lugs will push them out. That sleeve is put on between those two plates and the two plates is farther apart than the length of the sleeve was. The sleeve has a free-flowing, simulating the movement that can be had with the casing, to flow around to the side of the well. It can turn, it can do anything that casing can do. [2647-172] The only thing that will be lacking there will be the stiffness of casing, which will be a little harder to turn and a little more abusive. Op-

(Deposition of J. E. Hall, Sr.)

erating this machine would probably not be as hard on a scratcher as actual use of a scratcher on a casing.

Q.651: Now, you have stated that there are two disks, one above and one below the sleeve and ring. What is the purpose of the upper disk, which lies in a horizontal position immediately above the ring and sleeve?

A. The purpose of the upper disk is to pull the part representing the casing down through the outer casing or a well bore. The bottom disk is to push it out so that through the two you can have reciprocation.

Q.652: And what reciprocates this sleeve or disk? What reciprocates the sleeve?

A. A shaft pulled by a hydraulic cylinder in the bottom.

Q.653: What is the cylindrical object which is vertically positioned immediately below the sleeve and ring, long, cylindrical object? A. This?

Q.654: Yes.

A. That is a piece of casing of a well diameter size that a scratcher or the tool should be [2647-173] run into.

Q.655: What does that particular cylinder simulate?

A. It simulates the casing in a well bore with a round cylinder.

Q.656: What is the wide plate which is immediately below the cylinder just referred to, and down two or three feet?

(Deposition of J. E. Hall, Sr.)

A. That is a platform, which you can stand on to observe the movements that the device that you are testing has.

Q.657: What is the object that extends out radially at the bottom, from the bottom plate, and seems to be mounted on the bottom plate?

A. An electric motor.

Q.658: And what purpose does that serve?

A. The electric motor pulls the pump, and the pump draws the hydraulic cylinder, the hydraulic cylinder reciprocates the test.

Q.659: I show you a second photograph, which I will ask the reporter to mark as Exhibit 61 for identification.

(The photograph referred to was marked as requested, Applicant's Exhibit 61.)

Q.660: What was the purpose of taking this photograph, [2647-174] Mr. Hall?

Mr. Lyon: That is objected to as immaterial, what his purpose was.

A. Showing the simulation of the parts where the scratcher goes on, as they are installed when the scratcher is put on.

Q.661: Has the sleeve now been mounted between the two disks? A. It has.

Q.662: Is the ring in position? A. It is.

Q.663: And what is the object immediately above the top of the upper disk, which is not shown in the former photograph?

(Deposition of J. E. Hall, Sr.)

A. Above the upper disk?

Mr. Lyon: That is right, point it out, Tom; you might better testify.

A. Above the upper disk, all that would be shown would be a nut that screwed on top of the plate to hold it on.

Q.664: What is the purpose of the nut?

A. The purpose of the nut is so that you can take the device off and change the size and change equipment for installing the tests, and purposes for simplicity. It holds the mechanism in [2647-175] place.

Q. (By Mr. Lyon): You found the nut when Mr. Scofield pointed it out to you, didn't you?

A. Well, I designed the thing and had it put on there myself.

Q.666: Just answer the question: You found it when he pointed it out on the picture?

A. I was trying to arrive at the figure of what he was talking about.

Q.667: So he pointed the nut out to you, didn't he?

A. Well, he pointed to the upper part.

Q.668: (By Mr. Scofield): After the sleeve and ring are mounted in the manner shown in Exhibit 61, is the sleeve rigid between the disks, or is it movable?

Mr. Lyon: That is objected to as leading.

A. It is movable. As I explained a while ago, it is movable to simulate the moving of casing floating from one side to the other, or it can rotate.

(Deposition of J. E. Hall, Sr.)

Q.669: How long a stroke does this device have?

A. Oh, in inches I would say about thirty inches.

Q.670: And how is the device driven?

A. Driven by electrical motor, and by the electrical motor drives a pump, which in turn upon hydraulic pressure or oil or with a lever reciprocates the [2647-176] cylinder, which in turn reciprocates, carrying the device or the tool.

Q.671: I show you another photograph, which I request the report to mark as Exhibit 62 for identification.

(The photograph referred to was marked as requested, Applicant's Exhibit 62.)

Q.672: What is shown in this particular photograph, Mr. Hall?

A. That is the upper end of this test device that we have been talking about, and installed on the device is a B & W wall cleaning guide.

Q.673: I show you another photograph, which I request the reporter to mark as Applicant's Exhibit 63.

(The photograph referred to was marked as requested, Applicant's Exhibit 63.)

Q.674: In what position was the device when this photograph was taken?

A. The device, the wall cleaning guide, was just being pulled into the cylinder while the photograph was taken. The cylinder was stopped and held. The device is partly entering into the cylinder.

(Deposition of J. E. Hall, Sr.)

Placed on top of the device, a ruler, which can easily be readable to anyone, the outer diameters of fingers [2647-177] and the inner diameters of the simulated well bore, or the pipe, and also the diameters of the collar, or anything that they want there. In other words, the sizes. This was done so that the sizes could be easily discerned.

Q.675: How much greater in diameter was the scratcher than the well bore or the cylinder?

A. Oh, approximately an inch and a half, an inch and three-quarters, as bristles vary a little bit.

Q.676: I show you a photograph, which I will ask the reporter to mark as Applicant's Exhibit No. 64.

(The photograph referred to was marked as requested, Applicant's Exhibit 64.)

Q.677: State the position that the device was in when this photograph was taken.

A. The device, the scratcher had been pulled to the bottom of the cylinder, the cylinder turned toward the top, and where the photograph could be taken to show that there is no reverse in the bristles.

Q.678: In operating this device with a B & W wall cleaning guide, can you stand on the platform and look into the top of the cylinder, while it is being reciprocated? A. You can. [2647-178]

Q.679: Can you see whether or not the bristles or wires reverse during reciprocation?

A. You certainly can.

(Deposition of J. E. Hall, Sr.)

Q.680: I notice on these last two or three photographs there is a marking on the exterior of the cylinder, and also on the scratcher itself. Why was that done?

A. That was done to determine that the thing rotated.

Q.681: I show you a photograph, which I will request the reporter to mark for identification as Exhibit 65.

(The photograph referred to was marked as requested, Applicant's Exhibit 65.)

Q.682: Can you tell me what this photograph depicts?

A. Yes. I would like to make a correction on the other picture. This is the photograph where the scratcher was going to be pulled in and returned. The other picture is where there was inserted a ring, an obstruction. It is just being pulled through that ring and obstruction. That is the one marked Exhibit 64.

Q.683: What was the purpose of putting the obstruction ring inside of the cylinder?

A. For the purpose of collars, obstructions in [2647-179] well bores of small diameters, to pull the scratcher toward you or to push it back, to see the effect upon it, the reversibility.

Q.684: Did you make a test for rotatability of the wall cleaning guide which is shown in any of these photographs which you have before you and which are marked Exhibits 62 to 65, inclusive?

A. I did.

(Deposition of J. E. Hall, Sr.)

Q.685: Did you find, or were you able to determine, whether the B & W wall cleaning guide rotated upon reciprocation in this test machine?

Mr. Lyon: That is objected to on the ground that the witness is not qualified to answer the question.

A. I was able to determine that it did not rotate.

Q.686: Were you able to determine from the tests made with the B & W wall cleaning guide whether the wires of the wall cleaning guide reversed upon reciprocation?

A. They did not reverse.

Q.687: What did they do?

A. As you pushed them in, they taken a radial backward, lay down backwards toward an upward position and the bend in the end of the springs, near the end of the springs, slid on the casing. They only slid up and down. [2647-180]

I also taken the standard size of casing for that size of scratcher with another simulated piece of pipe, with a collar in it, a regular joint of pipe. They also slid through that and did not reverse. So I am convinced with the various tests and knowledge I have of scratchers, it was designed not to reverse.

Q.688: What was designed not to reverse?

A. The wall-cleaning guide.

Q.689: Do you think that this wall-cleaning guide would reverse in an open well bore if the wires were sufficient or if the wires extended to a rough surface and were reciprocated in a well bore,

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that had the natural friction exposed to the ends of the wires?

* * *

A. Yes, I believe they would reverse, but not all at one time. They will only one or two wires would reverse in a manner, and roll up, and that possibly accounts for the scratcher being deformed as it is run into a well bore and pulled out.

Q.690: Did the wall-cleaning guide reverse in this particular test machine?

A. No, sir, it did not. I made various attempts, probably used fifteen or twenty scratchers trying to [2647-181] make them reverse, and I never could get any reverse whatsoever.

Q.691: Now, after the collar was put in the top of the cylinder as shown in Exhibit 64, did you obtain reversal with the use of that collar?

A. Yes, sir, it turned reversal of the biggest portion of the bristles, but still some of them slid back through and even jumped that, and they did not go in reverse. [2647-182]

* * *

Q.711: How did that compare with the test machine that you saw in California upon which tests were made by Mr. Doble?

A. Well, in the test machine, the operations he was trying to carry on there was the scratcher outer diameter was many of the bristles was even smaller than the cylinder, or near about, and in this case is a well simulated size; ordinarily some of the

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sizes that are popular in running scratchers in wells. However, there is many more smaller sizes. We only made a well bore where the growths being that the scratchers have to reverse in, and this is among the popular sizes.

Q.712: Why did you select the size scratcher that is shown here in Exhibit 68 and this size well bore in preference to something else?

A. Because there were two sizes of scratchers that possibly or evidently are about 84 per cent of all business is in those two sizes, and this happens to be one of the two sizes.

Q.713: You haven't answered the question.

A. That was why we selected these sizes, because they are very popular in well operations, and have [2647-187] been popular in our advertising, popular in their advertising of B & W.

Q.714: Yes, I understand that there are certain popular-sized scratchers, but my question was directed to why you selected this particular size scratcher with this particular size well bore?

A. Because that was one of the standard major operations that we have, and it is one of the functions, it is one of the most important functions that the scratcher has to go through, and there is no use of selecting some size that wouldn't be within the range of the operation of the scratcher in the well bore. There is no use showing the minimum function, so this is the maximum. That is the thing we figure a scratcher has to do in being run in an actual job.

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Q.715: Is this size scratcher that is shown in Exhibit 68 a conventional type, normal type of scratcher that is used in a well bore of the size of this cylinder?

Mr. Lynn: That is objected to as leading.

A. That is correct. That was why it was selected.

Q.716: I notice in this drawing, and it appears also in the preceding drawings, there are some pipe-like projections extending out radially from the cylinder. What is their function? [2647-187-A]

A. They have a function that when we desired to make another test we put another ring in, and those only screwed into place at that time to hold the ring, a ring simulating the distortion in a well bore.

Q.717: And where is that ring located when it is applied to the cylinder?

A. On the inside of the cylinder.

Q.718: In the top?

A. Yes, that ring is shown in one of the other pictures that is in exhibit here.

Q.719: I notice in this Exhibit No. 68 that the lower scratcher wires are slightly upturned, or considerably upturned and lie along the rim of the cylinder, do they not? A. That is correct.

Q.720: They appear to cross the row of wires above; is that a normal way in which the scratcher enters the cylinder?

A. That is the normal way in which the scratcher enters into the bore of the well, but that is not a normal position for it to be in. As quick as the

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scratcher enters into the upper row, it is extended at the same plane that the others are, so that they are not even close together. They take the same position as the bottom ones take.

Q.721: Do I understand your testimony to be that as [2647-188] the scratcher is lowered into the cylinder, that the upper row will assume a like angle? A. That is right.

Mr. Lyon: That is objected to as leading.

Mr. Scofield: I will ask the reporter to mark the photograph as Applicant's Exhibit 69.

(The photograph referred to was marked as requested, Applicant's Exhibit 69.)

Q.722: You have before you the photograph, Applicant's Exhibit 69. State what is shown there.

A. There is shown a scratcher on the upward travel. What indicates it on the upper travel, as it was stopped the bottom row of scratcher fingers are pointed downward, and that is after some reciprocations have been made, and the chalk mark that registered with the mark on the cylinder in Exhibit 68 is turned back to the left, is turned away from the way the scratcher bristles bend, and this is the direction that the scratcher rotates when the cylinder is thrown in reverse.

Q.723: Is the lower row of wires in the cylinder or outside the cylinder in Exhibit 69?

A. The lower wires are in the cylinder in Ex-

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hibit 69 on the upper travel; the upper wires have been pulled out of the cylinders. [2647-189]

* * *

Q.735: Now, you have got us to the point where the bristles work in the wall of the well and ratchet, as you call it, the collar. Now, what follows?

A. As they ratchet the collar, at that time, as they ratchet the collar around, the bristle then is in a horizontal position.

Q.736: Let me ask you also, Mr. Hall, does that ratcheting that you have referred to take place at the [2647-195] top of the stroke or as your casing is let down, or in some other direction?

A. No, the ratcheting takes place after it has reached the top of the stroke. The reversal movement is begun, the reversal movement has to come in, there is no ratcheting in just pushing it to the top of the stroke and stopping it; it is when the reverse comes in, part of the travel. [2647-196]

* * *

Q.742: Do I understand you to say that the collar passes through the wires?

A. It passes through all the wires; they are in a circumference on the outside of the collar.

Q.743: Isn't there any tendency for these wires to tangle as this collar passes through the two rows of wires?

A. As they are spaced on the collar, a distance apart, and the fingers, the springs, are spaced up

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straight, [2647-197] and they take the position of the bore of the well, each finger has a position to travel in. It doesn't touch the other one at all.

Q.744: Do they at all times clear each other, to your knowledge?

A. No, sometimes there is irregularities. Irregularities will be to an extent that I could not explain that. Irregularities may come in and destroy an entire finger, or something like that. Due to the fact that multiplicity of them, you can lose a few of the fingers and still have fingers on the [2647-198] collar.

* * *

Q.751: Do you think there was any rotation at all by Jones and Berdine?

Mr. Lyon: That is objected to as calling for a conclusion of the witness, as incompetent, irrelevant and immaterial.

A. I testified yesterday and analyzed their cylinders, and I did it many times and I have run many, many experiments on those. I can't find any indications, and all indications point that they do not rotate, and I would be willing to discuss it with anyone that could show me a point of rotation, because I would like to find them myself if it is there. [2647-201]

* * *

Q.761: Did you detect any of that spiraling action in any of the billets that were made in the Jones and Berdine tests?

Mr. Lyon: That is objected to as leading and

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suggestive and incompetent, irrelevant and immaterial.

A. I couldn't detect either type of spiraling action. I might state that the spiraling action of the travel [2647-203] of the scratcher is not the spiraling action that I have been very much concerned with. The natural thing that comes with the reversible scratcher is the ratcheting action. Anything can cause a pipe to turn on a travel, but the ratcheting action which it has with this type of scratcher only when it has a pivot at this collar, and it pivots on the well bore. [2647-204]

* * *

Q.816: Did you hear your son, John, testify with respect to the trips made to the Union Oil Company, where he visited Mr. Phil Jones during the year 1941? [2647-225] A. Yes.

Q.817: What is your recollection of the part that you took on those trips?

A. I have only one recollection, of going down to see Phil Jones on two occasions.

Q.818: Was that before or after the Jones and Berdine tests?

A. That was after the Jones and Berdine tests. One occasion was after the A.P.I. meeting in the spring.

Q.819: How do you fix that?

A. I went down to see Mr. Jones, to explain to him that the cement billet with the special centralizer made was of a certain round nature, and I

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calipered it, and there was a cut made where the pipe was in the center of the hole, and it was perfectly round, just as if it had been drawn and taken from that billet, and I went down and asked him if he had any objections if I used this—any of those cuts, in trips or sales efforts, to demonstrate what the centralizer done. I place that time as after the A.P.I. meeting, because the first of those papers were brought out at the A.P.I. meeting, and those papers was what attracted me, and I went after them. Another time I went to see Mr. Jones——

Q.820: Was that all that happened on that particular [2647-226] visit? I mean attempting to obtain his permission to use these cuts that had appeared in the paper?

A. No. My son John at that time carried the can in—we call it the can, one of these demonstrator cans—into their place where they have their offices, the building office. I forget the name of the street down there in Wilmington, a kind of research laboratory. There was several fellows working in there, and he carried this can in there and showed him a demonstration.

Q.821: Did you go in with him?

A. Yes; I was in there with him.

Q.822: Did you see him make the demonstration?

A. I did.

Q.823: In Jones' presence?

A. Jones was present. There were two or three

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other fellows present. I don't recall any of their names. [2647-227]

* * *

Q.839: I show you a photograph of a scratcher, the photograph having been offered by the applicant as Exhibit 25. Can you identify the scratcher in that photograph?

A. Yes, I can identify the scratcher in this photograph, but I couldn't identify it if I didn't know exactly what it is.

Q.840: What is it?

A. This is a picture of one of the two scratchers that B & W made in duplicating my type of scratcher and sent to the Gulf Oil Corporation.

Q.841: How are the coils disposed to the collar in that scratcher?

A. They are set at an angle to the radii of the collar.

Q.842: You have already indicated that the attempts made by B & W to duplicate the scratcher shown in Exhibit Z were unsuccessful, have you not?

A. I certainly have.

Q.843: Can you account for the fact that they were able to duplicate the scratcher here that you sent to Gulf, or that they sent to Gulf? [2647-231]

Mr. Lyon: That is objected to as leading and suggestive, and entirely argumentative, both this and the preceding question.

A. Yes, I can account for the fact.

Q.844: How do you account for it?

A. As they are attempting to imitate my appli-

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ation in the Patent Office, it becomes very advantageous to show something else different than the type of scratcher I have been making and selling before from Exhibit Z. The attempts that they have made to produce Exhibit Z are identical with the Patent Office drawings in my application file at this late date of the eleventh month and sixth day, 1945, in Serial No. 627013.

Q.845: Is that the scratcher shown in the drawing which is before you, marked Exhibits 39B and 39C?

A. It is. The production that they have made is identical with that drawing, and in corresponding to the two scratchers that they made and sent to the Gulf when the Gulf told them that they wouldn't use anything except my type of scratcher, so it looks to me like a rigged effort to produce this production that they did, to show what they were trying to prove.

Q.846: I show you a photograph of a scratcher which was offered by applicant as Exhibit 28. Can you [2647-232] tell me what that scratcher is?

A. Yes, there is one of my type of design or scratcher that they bought from the State Sales & Service.

Q.847: How do you identify it as one of your type scratcher?

A. Because I was there when they give the testimony that they had bought it and produced the bill, and I also inspected the scratcher when I detected what they had done to it.

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Q.848: Are the scratcher wires down in that—were the scratcher wires of the scratcher which was produced by the Petitioner in California the same length as they were when the scratcher was bought?

A. No.

Q.849: How had they been altered?

A. When they had bought the scratcher, the scratcher wires were at a longer length, and they were all with corresponding lengths. They had altered it, as they so testified, by cutting the lengths off even, but I detected that the lengths were not even, as one of the major things that caused me to check on the scratcher. I detected that one row of bristles had been so changed as to be a reproduction of Serial No. 627013, filed the 11-6-45. The other row of bristles still had the cantered position that they originally had. The row [2647-233] where they had changed the canter in the bristles to a lesser degree in pitch, which the springs had to be longer to come out and make the same diameter, those fingers were made longer than the others.

They also caused that there thing to bend in the scratcher, which is different from its normal. Each row of spring fingers have a different pitch. The picture that they had taken, that they put in exhibit to show that the scratcher that they had bought from the State Sales & Service was a direct copy of the reproduction that they had made from Z, Exhibit Z, was on top, but turning the scratcher immediately over, it would make the scratcher hard

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to detect that anything had been done [2647-234-239] to it.

* * *

Q.851: Did Doble testify in California that he made that scratcher?

A. He certainly did. He didn't make it, but he altered it, under his instructions, and so had it bought under his instructions. I later heard Mr. Lyon come on and make a statement on record, since nobody else wouldn't admit the work on it, that he ordered it—that he ordered it done.

Q.852: I show you another photograph, which is Petitioner's Exhibit GGG, and which was offered by the Petitioner during the taking of the depositions in California. Can you identify that?

A. Yes, I can identify this as the same scratcher as Exhibit 28, only turned there in the position, in the manner, to resemble my Patent Office drawing in Application No. 627013, as that would meet the proof that I was making the type of scratcher that they have charged me that I made.

Q.853: Why do you think that they cut the wires to different lengths in the two rows of your scratcher shown in Exhibit 28? [2647-240]

Mr. Lyon: That is objected to as entirely immaterial, as to what this witness thinks; also objected to on the ground that it is a misstatement of fact.

A. The reason why that they have cut the bristles at different lengths is very plain, as to leave the scratcher in an upward position, so that it would be hard to detect that it had been changed, and so they

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could turn it over and take the side where the coils are at a radii with the collar, and that the fingers come off at a tangent, and in order for the fingers to come off with a tangent, they would have to be at a greater pitch than the fingers where the coils are at an angle from the radii. So, therefore, they would have to have two lengths of bristles to come out to the same diameter. As this diameter was put into a cylinder, they had to show that the bristles would come out to the same length, so it was very necessary that they have two different lengths in bristles, because the bristles had to have—they had to have them at two different pitches. This looks to me like it was gotten that way with a considerable effort to engineer a rigged bunch of testimony to inquire what was attempted here. [2647-241]

* * *

Q.861: Now, going back to this scratcher, Exhibit 29 which you have identified as the Nucoil scratcher, are the coils in that scratcher disposed to the collar in the fashion as the coils in the drawings 39B, Fig. 1?

Mr. Lyon: That is objected to as leading.

A. Yes. [2647-244]

* * *

Q.863: I don't want to hear about the fingers. All I want to know is whether the coils themselves are radially disposed, or are they cocked or canted.

A. They are cantered.

Q.864: And this you have identified as the Nucoil scratcher?

A. That is correct.

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Q.865: Now, are these coils disposed to the collar the same, that is in a canted position, or are they something different than those coils shown in Exhibit Z? [2647-245]

Mr. Lyon: That is objected to as leading, grossly so.

Q.866: Are those coils in the Nucoil scratcher the same, or something different than as shown in your application, Exhibit 39B?

A. They are different. [2647-246]

* * *

Q.874: I put before you a photograph in evidence as Exhibit NN, and in that photograph is shown a scratcher which was offered in California as Exhibit KK, that scratcher being a reproduction, ostensibly, of the scratcher shown in Exhibit I, which was one of the scratchers tested by Jones and Berdine. Do you recall during the California testimony that there was both a thin-wire scratcher of that type and a heavier gage wire scratcher produced?

A. Yes, the gage of this wire was stated, was 16-gage wire.

Q.875: In Exhibit 30 the test cylinder is shown in plain view with this Petitioner's Exhibit KKK laid upon the top rim. If that scratcher were reciprocated in the cylinder, would you consider it a fair test of the reversibility of that scratcher in the well bore of the well?

Mr. Lyon: That is objected to as entirely argu-

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mentative, as leading and suggestive, incompetent, irrelevant and immaterial.

A. No, it wouldn't give any point of reversibility, because it is too near the diameter, and a scratcher has to be able to go into the bore of the well [2647-248] through the smaller diameters. Where there are so many larger diameters for the scratcher to reach out to them, it is difficult to make a test. You should be showing some of the small diameters, or at least a diameter equal that of the casing that you are having to run into. Most casings are like $5\frac{1}{2}$, run into $8\frac{5}{8}$, $9\frac{1}{4}$ and those diameters. The scratcher wire then extended from $11\frac{1}{2}$ inches to 2 inches beyond the well bore on each side, that would be a fair test. If such a scratcher had been pulled in in that test, with balls on the ends of those springs and with stiff joints where they come off the collar, I mean the various tests that I have made, they wouldn't have reversed; they would have only slid up and down the hole. They would have slid back up the hole.

Q.876: Would the conditions shown in Exhibit 30 give a fair test of the rotatability of the scratcher on reciprocation in the cylinder?

A. The rotatability——

Mr. Lyon: That is objected to on the ground the witness is in no way qualified to answer the question, and merely argumentative, based on false assumptions.

A. It would absolutely give no rotatability at the point of reversal. [2647-249]

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Q.877: Why?

A. Because the balls on the ends of the fingers are round, and they wouldn't stick to the bore of the well to pull it. They have to have quite a bit of holding to hold them so they will go in reverse. They would only slide, and where there is not enough tension, when the fingers are pushed in, the fingers wouldn't have enough upward direction in the reverse, which would be a very modular thing. In other words, if the fingers were sharp, there wouldn't be enough reverse to even pull it out of its own track.

Q.878: Did you hear any testimony in California given with respect to this same type of scratcher, tested—the same type of scratcher, that is the Fig. 26, Jones and Berdine scratcher—tested with the heavy wires? A. Yes.

Q.879: What tests, if any, were given with regard to the reciprocation of the heavy wires?

Mr. Lyon: That is objected to on the ground that the evidence speaks for itself in the record.

Q.880: Were heavy wire scratchers of the Jones and Berdine type tested, that had the heavy wires?

A. Yes.

Q.881: By Mr. Doble? [2647-250]

A. That is right.

Q.882: Did they rotate?

Mr. Lyon: That is objected to on the ground that——

A. He testified they did.

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Q.883: Did he testify that the thin wires rotated?

A. That is right. I would like to point out that the thin wires, the small wires, 16-gage, in the single-finger wires, I have never saw a commercial scratcher use a wire that small.

* * *

Q.884: What would be the difference in the action of the thin wires and the heavy wires in a cylinder of this sort, with the length of wire shown?

A. The difference, to suit Mr. Doble's position, where they did not have the coil spring at the base of the spring finger to cause—to allow for the pivoting action, where they have a rigid joint, and then the spring finger has to go into a bend or into a flex, the smaller the wire, the greater the distance of the flex travel, so they can use a [2647-251] little greater diameter than they could with a big wire, and it just wouldn't look so bad, and that is the only reason that I can see that they used the small wires instead of the big wires, and anyone can make a test on a wire, and they will see that what I have said is correct.

* * *

Q.886: No, I am asking you whether the scratcher which is shown in Exhibit K, that is with the bent wires, that is the Fig. 26 scratcher tested by Jones and Berdine, was that ever produced by B & W?

Mr. Lyon: Of course it was. It is shown in the

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figure.

A. I don't recall it.

Q.887: Was it ever produced commercially and offered to the trade?

A. No, absolutely not.

Q.888: Do you recall that there was offered during [2647-252] the California testimony or deposition a thin-wire scratcher, Applicant's Exhibit 14, shown in Exhibit 31?

A. Yes.

Q.889: Was that a B & W scratcher or wall-cleaning guide type?

A. It was.

Q.890: The scratcher as shown laid into the upper rim of the test cylinder in Exhibit 31, is it not?

A. That is right.

Q.891: Would you consider the reciprocation of that scratcher in a cylinder of that diameter a fair test as to the reversibility of the wires, or the reversibility of the scratcher shown?

Mr. Lyon: That is objected to as entirely argumentative and incompetent, irrelevant and immaterial, what this witness might think.

A. Absolutely not. In this scratcher, I observed that there was quite a lot of play in the spring fingers, in the ribs that held them down, that wasn't normal to their scratcher, and that the wire that went around the spring for circumference was bent upward, so that it extended up against the slack part in the rib, that it had about $\frac{1}{8}$ inch travel out at [2647-253] the outer end, and the scratcher was around a quarter of an inch in full diameter bigger than the pipe and was around $\frac{1}{8}$ inch slack on each

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side, which would account for the quarter of an inch, so there would be no strain on a scratcher with a radial spring making a reverse at that point. I would say that would be no test whatsoever for a scratcher to be run as a commercial [2647-254] scratcher.

* * *

Mr. Scofield: I would like at this time to offer the [2647-257] photographs that were marked for identification this morning, these photographs being those of the Applicant's test machine. I will offer them individually, or I can offer them in a group, perhaps, and if there is any objection, it can be made as an over-all objection. I offer in evidence the photographs Exhibits 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72 and 73, inclusive.

* * *

Q.900: When you conceded priority to Mr. Wright in the original interference at the time of the settlement agreement, September, 1944, was there any concession made by you to the non-radial type scratcher?

* * *

A. Absolutely not, and we compared them, and we discussed those four claims as being what was common to Mr. Wright's application and what was common [2647-258] to my application, and in Mr. Wright's application it was pointed out that the sidewise bristle was about all I had left with the coil springs to obtain the patent from, and that was

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the priority that was given to Mr. Wright, was on the type of a scratcher that those claims described, that would be common to both.

Q.901: There was a later interference declared upon an application of yours still pending in the Patent Office, and an application of Wright on claims that had been allowed to you, was there not?

A. There was.

Q.902: That interference is now terminated?

A. It was. The interference was terminated in 1950.

Q.903: During any time when that particular interference was being prosecuted, did Mr. Wright or his attorneys, to your knowledge, plead the prior public use of the Kelley well?

* * *

A. There was no such pleading.

Q.904: During the time that that interference was prosecuted, and prior to the time it was terminated, did Mr. Wright, to your knowledge, or his attorneys [2647-259] bring up, mention or plead the Jones and Berdine public use?

* * *

A. There was no such pleadings.

Q.905: What range of angularity of the wires to the collar assures reversibility?

A. That range would be governed by the flexibility of the pivot. If the flexibility of the pivot was zero, and you had to allow the spring to go more sidewise, the range could be much less. If

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you used five coils, you could use a less range of sidewise, and still the scratcher will reverse. The stiffer you make the pivoting joint, it is necessary to get some greater degree of sidewise—it is necessary to get a more sidewise degree, so there is several factors that enter into the necessary degree to cause the scratcher to reverse.

Q.906: Now, you have indicated in your former testimony that radial wires are not reversible, have you not? A. That is right.

Q.907: Now, I would like to have you give me what range from the radial wire to the wire which is tangent, that is with an angle of 90 degrees, what range is there there that will assure reversibility of [2647-260] the wires?

Mr. Lyon: I will object to the question as grossly leading, and particularly when accompanied by pointing with a pencil, a demonstration which can't be seen in the record, on a drawing, to the witness.

A. I would say that the most comparable range for reversibility, having a reach to the greater diameter, would be something close to 45 degrees.

Q.908: That is you think that the range of reversibility of the wires would be within about a 45-degree angle?

A. Yes. I might state something here for the benefit of those that are examining this, which is an absolutely true condition, that from the maximum diameter, that is the most outstanding position that the wires are made in, that when they run in a hole, that they are subject and perhaps will be pulled

(Deposition of J. E. Hall, Sr.)

down to a degree, plumb on down to the collar, away on down below a tangent.

Q.909: If the wires extend from the collar tangentially at a true tangent, would the scratcher be reversible?

A. Yes. The only objection in a true tangent that I have found, you sacrifice too much of the length of your bristle, and in order to make a bristle long [2647-261] enough to get in—to reach the maximum, you have too much wire in the hole. That is, there is a question of sacrificing a point there. Where is the best?

Q.910: Tell me, if the wires were only slightly angled from the radial position, would the scratcher be reversible?

Mr. Lyon: That is objected to as calling for an opinion of the witness and as incompetent, irrelevant and immaterial.

A. Yes, but in that case you would have to have a sufficient reflexivity at its orbit.

Q.911: What do you mean by its orbit?

A. I mean where it comes attached to the collar, you have got to have more coils there than you would have if laid down to a different [2647-262] degree.

* * *

Q.915: All right. Well, tell me now whether this scratcher shown in Exhibit 39A is a reversible scratcher?

Mr. Lyon: That is objected to as leading.

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A. It is a reversible scratcher, and perhaps close to the choice of the angle to set it, that it can be set. [2647-263]

* * *

Q.923: Are the scratchers shown in Exhibit 39B and 39C reversible? A. Yes.

* * *

Q.924: In reversing in the well bore, do the scratchers with the angularity shown in 39A and the scratchers shown in 39B and C function generally the same or differently? [2647-265]

* * *

A. They function generally the same.

Q.925: Is the scratcher shown in Exhibit Z, which is the scratcher shown in the cut of the Oil Weekly, a reversible scratcher?

A. It is. [2647-266]

* * *

Q.931: What was the invention that you wanted to carry on or continue from this first application on to the second and third applications which you filed?

* * *

A. I wanted to carry on the invention that had to do with the reversibility of the scratcher, the invention of a coil of a means like a coil at the base of the finger and its setting at an angle so that it would reverse.

Q.932: Does the reversibility bear any relationship to the angularity of the wires?

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Mr. Lyon: That is objected to as leading and suggestive.

A. Yes. You have got to have the wires to a substantial degree of angularity for them to reverse, and [2647-267] they have quite a wide space after you start the reversing, until it gets down, the wire gets down, to the collar, it will still reverse.

Mr. Lyon: I move to strike the statement last made by the witness as entirely volunteered, not responsive to any question.

Q.933: Did you ever intend to admit in anything that has been filed in the Patent Office that the scratchers shown in the advertising Exhibit Z showed the scratcher structure which was the same as in the drawings of Exhibits 39B and C.

Mr. Lyon: That is objected to as leading and suggestive, and also as entirely immaterial, as to what he intended to admit.

A. No, I never did. The scratcher structure in Exhibit Z is not the type of scratcher that is in Exhibits 39C or 39B.

Q.934: Prior to November 6, 1945, did you or your company ever advertise a scratcher which was identical to the scratcher shown in Exhibits 39B and 39C?

Mr. Lyon: That is objected to on the ground the advertising is the best evidence, and this witness' testimony can't alter or vary that advertising.

A. The advertising never showed such a type of [2647-268] scratcher. I would like to state that almost all of the advertising continued throughout

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the period of the scratchers sold are photographs, so they will be a record of the actual scratchers that were sold during that period.

Mr. Lyon: I move to strike the latter statement made by the witness as entirely volunteered and not responsive to any question.

Q.935: In the decision of the Patent Office dated September 9, 1952, on page 31 there is the following statement, that is, the Patent Office has put upon you the requirement "that Hall at least be asked to explain the facts and circumstances surrounding the filing of this application," which is 627013, "in the manner and form in which it was filed, and to explain, if he can, the filing of an application with an oath." Have you attempted during this testimony to make such explanation?

A. I sure have. [2647-269]

* * *

Q.936: Did B & W, or Mr. Wright, ever notify you on any occasion that the scratchers that you were selling to the trade functioned on the same principle as those that were furnished to Mr. Kelley when they were used on the Kelley well?

Mr. Lyon: That is objected to as leading and as incompetent, irrelevant and immaterial.

A. They have not.

Q.937: Did B & W ever notify you that the scratchers you were selling to the trade functioned on the same principles as the Fig. 26 scratcher that was tested by Jones and Berdine?

(Deposition of J. E. Hall, Sr.)

Mr. Lyon: That is objected to as leading and suggestive and as incompetent, irrelevant and immaterial.

Q.938: I am referring to the scratcher which had been radial for a way, and then bent toward the ends, with the balls welded on the ends of the wires, or puddled at the ends of the wires.

Mr. Lyon: Same objection, leading and suggestive and incompetent, irrelevant and [2647-270] immaterial.

A. They have not.

* * *

Cross-Examination

And in answer to cross-interrogatories proposed to him by Lewis E. Lyon, Counsel for Petitioner, he says.

XQ.1: Mr. Hall, how long have you been dealing in [2647-271] patents?

A. To what extent, Mr. Lyon?

XQ.2: To any extent?

A. Forty-five years.

XQ.3: How many patents have you applied for?

A. I couldn't any more tell you than——

XQ.4: Has it been in the hundreds, or fifty or twenty-five, ten, one, or what?

A. Well, I would want to vary it; possibly a hundred.

XQ.5: How many patents have been granted to you? A. That I couldn't tell you.

XQ.6: Well, I have here a list of patents which

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are perhaps some of the patents that have been granted to you. Let's see. I will hand you soft copies of these patents. The first one I have in front of me at the present time is a patent of J. E. Hall, No. 2560692, granted July 17, 1951, on an application filed May 24, 1947. I will ask you if you were the J. E. Hall there mentioned as the patentee?

A. I am.

Mr. Lyon: I will offer this soft copy in evidence as Petitioner's Exhibit next in order, 5Q.

(The exhibit offered in evidence was marked by the reporter, Petitioner's Exhibit [2647-272] 5Q.)

XQ.7: The next patent I hand you is a patent, No. 2509922, granted May 30, 1950, on an application filed June 21, 1946, for cementing plug. I will ask you if you were the patentee of that patent?

A. I am.

Mr. Lyon: I will offer that soft copy of that patent in evidence as Petitioner's exhibit next in order.

* * *

Mr. Lyon: I also hand you, Mr. Hall, a patent No. 23929146, granted January 1, 1946, on an application filed June 24, 1943, for drill pipe wiper. I will ask you if you are the patentee there named?

A. I am.

Mr. Lyon: I will offer this soft copy of this patent in evidence as Exhibit 58. [2647-273]

* * *

(Deposition of J. E. Hall, Sr.)

XQ.8: With respect to Exhibit 5Q, was the application for the patent involved in any interference proceeding?

A. At this time I couldn't tell you.

XQ.9: You don't know? A. I don't know.

XQ.10: Haven't you been involved in a lot of interference proceedings in your life?

A. I have been involved more than once.

XQ.11: How many more than once?

A. I couldn't tell you.

XQ.12: It is a great number?

A. No, I wouldn't say a great number.

XQ.13: Well, was it as many as ten?

A. I recall possibly three.

XQ.14: Any more than that?

A. That I don't know.

XQ.15: What are the three that you recall?

A. I recall the two that is in this—that I have had with Mr. Wright, one in 1950 and one in 1943.

XQ.16: And what others?

A. The only one I recall was one of [2647-274] the centralizers.

XQ.17: Which one was that? What was that? Who was that one with?

A. I believe it was, as well as I remember, it has been about twelve or fourteen years ago, or maybe fifteen years ago, Steps, et al.

XQ.18: Any others?

A. I don't recall at this moment.

XQ.19: Was the application for the patent, Ex-

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hibit 5R, involved in any interference while it was pending before the Patent Office, or after the patent issued? A. I couldn't tell you.

XQ.20: Was the patent Exhibit 5S involved in any interference proceeding while the application was pending in the Patent Office, or after the patent issued? A. I don't recall.

XQ.21: I hand you a further patent, No. 2392145, granted January 1, 1946, on an application filed May 29, 1943, for cement basket, and ask you if you are the patentee of the patent?

A. I am.

XQ.22: Was that patent involved in any interference, either the application or the patent after it was [2647-275] granted?

A. That has been ten years ago since this was filed, and I don't recall the prosecution of that patent at all.

XQ.23: I hand you a copy of a further patent, No. 2309897, granted February 20, 1943, on an application filed August 5, 1939, and I will ask you if you are the patentee of that patent? A. I am.

XQ.24: Was the application for that patent involved in any interference while pending before the Patent Office, or was the patent, after granting, involved in any interference in the Patent Office?

A. I don't recall. That has been ten years ago.

XQ.25: I hand you a copy of a further patent, No. 2299978, granted October 27, 1942, and ask you if you are the patentee of that patent?

A. I am.

(Deposition of J. E. Hall, Sr.)

XQ.26: Was the application for that patent involved in any interference proceeding while it was pending before the Patent Office, or in the Patent Office after the patent was granted?

A. I don't recall the prosecution of that; it has been eleven years ago. [2647-276]

Mr. Lyon: I will offer this soft copy in evidence as the Petitioner's exhibit next in order.

* * *

XQ.27: I hand you a soft copy of a further patent, No. 2297956, granted October 6, 1942, for single duct hydropneumatic well tool actuator, and ask you if you are the patentee of that letter patent?

A. I am. [2647-277]

XQ.28: Was that application for patent involved in any interference proceeding while pending before the Patent Office or after the patent was granted?

A. I don't recall. That has been fifteen years ago since that was filed, and I don't recall it.

Mr. Lyon: I will offer the copy of this patent, No. 2297956, in evidence as Exhibit 5W.

* * *

XQ.29: I hand you a soft copy of a further patent, No. 2270671, granted January 20, 1942, for applicator for elastic rings, the application being dated July 5, 1938, and I will ask you if you are the patentee of those letters patent? A. I am.

XQ.30: Was the application for this patent involved in any interference before the Patent Office?

(Deposition of J. E. Hall, Sr.)

A. I do not recall the transaction of that; that has been fifteen years ago.

Mr. Lyon: I will offer this one in evidence as Exhibit 5X. [2647-278]

* * *

XQ.31: I hand you a copy of a further patent, being No. 2763068, granted November 18, 1941, on an application filed May 15, 1940, for fluid motor, and I will ask you if you are the patentee of these letters patent? A. I am.

Mr. Lyon: I will offer this soft copy in evidence as Exhibit 5Y, this being patent No. 2763068.

* * *

XQ.33: With respect to all these patents that have been offered, you took an active part in watching closely the prosecution of the applications before the Patent Office, didn't you? [2647-279]

A. Why, I taken an active part as far as to see that I got the merits that I was entitled to.

XQ.34: And you watched the amendments that were filed and claims that were drafted in each case, didn't you? A. Fairly well.

XQ.35: And you have been doing that for the forty-five years you say you have been dealing with patents?

A. No, there is possibly twenty-five years of that forty-five years that I didn't hardly know what a patent looked like, but I was doing a lot of development work.

XQ.36: So it is only during the last twenty years that you have been quite active in the prose-

(Deposition of J. E. Hall, Sr.)

cution of patent applications before the Patent Office? Is that right, instead of for forty-five years?

A. You asked the question in any manner that I was connected with patents.

XQ.37: I am not trying to argue. I am just trying to get the facts. I am not trying to confuse you.

A. The first applications I attempted to file, along in '24 or '25, which I didn't file. The first application I filed that I recall of was somewhere in the thirties, around '35 or maybe before. [2647-280]

XQ.38: All right. For the entire period of time you have been watching very closely, as closely as you could, the prosecution of the applications in the Patent Office, and claims that you drafted, and prior patents that were cited against your applications, haven't you?

A. I have been following as closely as I could, but——

XQ.39: In several cases——

Mr. Scofield: Let him finish.

Mr. Lyon: Pardon me.

A. I say I have been following as closely as I could. There was a lot of things I have overlooked, because my library has been limited up until recently. It is not limited so bad now. [2647-281]

* * *

XQ.50: I hand you a copy of patent No. 2258052, granted October 7, 1941, on an application filed January 15, 1940, and I will ask you if you

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are the patentee of this patent? A. I am.

XQ.51: Do you recall the application for this patent or the patent after its being issued, being involved in an interference proceeding before the United States Patent Office?

A. I don't recall the prosecution of this application, as it has been twelve years ago [2647-283] when it was filed.

Mr. Lyon: I will offer this copy of this patent in evidence as the exhibit next in order, which is 5Z, I believe.

* * *

XQ.52: I hand you another soft copy of a patent, Mr. Hall, being patent No. 2229076, granted January 21, 1941, on an application filed January 21, 1948, and I will ask you if you are the patentee in this patent? A. I am.

XQ.53: Was the application for this patent, or the patent itself, involved in any interference before the United States Patent Office?

A. I do not recall the prosecution of this patent, because it has been fifteen years ago since it was filed.

Mr. Lyon: I will offer this last patent, numbered 2229076, in evidence as Petitioner's Exhibit 6A.

* * *

No. 14626

United States
Court of Appeals
For the Ninth Circuit.

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vs.

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Volume VI
(Pages 2505 to 3016)

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FILED

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(Deposition of J. E. Hall, Sr.)

XQ.54: I hand you copy of another patent, Mr. [2647-284] Hall, being patent No. 2228229, granted January 7, 1941, on an application filed September 23, 1938, for casing protector applicator tool. I will ask you if you are the patentee of this patent? A. I am.

XQ.55: Was the application for this patent involved in any interference?

A. Not that I know of, because it has been fifteen years ago since I filed it.

Mr. Lyon: I will offer this patent, No. 2228229, in evidence as Petitioner's Exhibit 6B.

* * *

XQ.56: I hand you copy of a further patent, Mr. Hall, it being patent No. 2200716, granted May 14, 1940, on an application filed June 27, 1938, and I will ask you if you are the patentee in this patent? A. I am.

XQ.57: Was this patent or the application upon which it was granted involved in any interference before the United States Patent Office?

A. I don't know, as it has been fifteen years since that application was filed. [2647-285]

Mr. Lyon: I will offer this patent, No. 2200716, in evidence as Petitioner's Exhibit 6C.

* * *

XQ.58: I hand you copy of a further patent, No. 2196794, granted April 9, 1940, for stem jammed wedge valve, granted on an application filed May 19, 1939, and I will ask you if you are the patentee of this patent? A. I am.

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XQ.59: And was this patent or application upon which this patent was granted ever involved in an interference before the United States Patent Office?

A. I don't know, because it has been fourteen years since that was filed.

Mr. Lyon: I will ask that this application—I mean this patent—be marked in evidence as Petitioner's Exhibit 6D. By "this patent," I mean 2196794. [2647-286]

* * *

Mr. Lyon: I hand you a copy of a further patent, Mr. Hall, No. 2196793, granted April 9, 1940, on an application filed on August 20, 1937, for fluid screen. I will ask you if you are the patentee of this patent? A. I am.

XQ.60: Was this patent involved in an interference, or was the application upon which it was granted involved in an interference before the United States Patent Office?

A. I don't recall, as it has been sixteen years since that application was filed.

Mr. Lyon: I will offer this copy of patent No. 2196793 in evidence as Petitioner's Exhibit 6E.

* * *

XQ.61: I hand you a copy of a further patent, Mr. Hall, patent No. 2191380, granted February 20, 1940, on an application filed January 13, 1937, for well pump. I will ask you if you are the patentee in this patent? A. I am.

XQ.62: Was that patent or the application upon

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which the patent was granted ever involved in an interference before the Patent Office? [2647-287]

A. As this has been a number of years ago, I don't recall the prosecution of that application.

Mr. Lyon: I will offer this copy of patent No. 2191380 in evidence as Petitioner's Exhibit 6F.

* * *

XQ.63: I hand you copy of a further letters patent No. 2138002, granted November 29, 1938, for well pump, on an application filed March 23, 1936. I will ask you if you are the patentee in this patent? A. I am.

XQ.64: I will ask you if this patent or the application upon which it was granted was ever involved in an interference before the United States Patent Office?

A. I don't know, as that has been seventeen years since this was filed.

Mr. Lyon: I will offer this copy in evidence as Exhibit 6G. [2647-288]

* * *

XQ.65: I hand you a soft copy of letters patent No. 2132161, granted October 4, 1938, for insertable circulation starter for a well string granted upon an application filed August 24, 1936. I will ask you if you are the patentee of this patent?

A. I am.

XQ.66: Was this patent or the application upon which it was granted ever involved in an interfer-

(Deposition of J. E. Hall, Sr.)

ence proceeding before the United States Patent Office?

A. I don't recall. It has been seventeen years since this has been filed.

Mr. Lyon: I will offer this copy of this patent, No. 2132161, in evidence as Exhibit 6H.

* * *

XQ.67: I hand you copy of another letters patent, Mr. Hall, being patent No. 2126992, granted August 16, 1938, for pump jack on an application filed July 18, 1936, and I will ask you if you are the patentee of this letters patent? A. I am.

XQ.68: Was this patent or the application upon which it was granted ever involved in an interference [2647-289] proceeding before the United States Patent Office?

A. That has been seventeen years ago, and I don't recall.

XQ.69: I will offer a copy of patent No. 2126992 in evidence as Petitioner's Exhibit 6I.

* * *

XQ.70: I hand you copy of another letters patent, No. 2107788, granted February 8, 1938, on an application filed January 9, 1937, for deballing drilling bit. I will ask you if you are the patentee of this patent? A. I am.

XQ.71: Was that patent or the application upon which it was granted involved in an interference proceeding before the United States Patent Office?

A. It was not.

(Deposition of J. E. Hall, Sr.)

Mr. Lyon: I will offer the copy of the patent, No. 2107788, in evidence—— [2647-290]

* * *

XQ.72: I hand you copy of another letters patent, Mr. Hall, this being patent No. 2392144, granted January 1, 1946, on an application filed May 29, 1943, for pipeline cleaners, and I will ask you if you are the patentee of this patent?

A. I am.

XQ.73: Was this patent or the application upon which it was granted involved in any interference before the United State Patent Office?

A. I don't recall. It has been ten years since this was filed.

Mr. Lyon: I will offer this soft copy of letters patent No. 2392144 in evidence——

* * *

Mr. Lyon: At this time I will also offer in evidence as the Petitioner's exhibit next in order a certified copy of the file wrapper and contents in the matter of letters patent No. 2392144, Exhibit 6K, as Exhibit 6L. [2647-291]

* * *

XQ.74: I hand you copy of a further patent, Mr. Hall, patent No. 2220237, of November 5, 1940, and I will ask you if you are the patentee of this patent? A. I am.

XQ.75: Was this patent involved, or the application upon which it was granted involved, in an

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interference before the United States Patent Office?

A. I believe I stated yesterday that patent was an interference.

XQ.76: In interference with whom?

A. Steps, et al., Hartman, something. I don't know who it was.

XQ.77: (By Mr. Scofield): Hartman?

A. Yes, I don't know the full name.

XQ.78 (By Mr. Lyon): Was that interference settled? [2647-292]

A. I couldn't tell you, Mr. Lyon, at this time how it was settled. It is of record, however. It was settled.

XQ.79: I didn't ask you how. I said was it settled? A. I suppose so.

XQ.80: Was there a claim of priority filed in that interference?

A. I don't recall what was done at this time.

XQ.81: You have no recollection?

A. No recollection, only I know there was an interference.

XQ.82: This particular patent is a patent, is it not, directed to your spiral centralizer?

A. Yes, that is directed to the old spiral centralizer and the new one, maybe.

XQ.83: And this patent is the one from which you derived your principal revenue for quite a number of years, isn't it?

A. Oh, I derived revenue from it. I am not

(Deposition of J. E. Hall, Sr.)

supposed to tell you what I derive my principal revenue from. I haven't made no audit.

XQ.84: In 1939 were spiral centralizers being manufactured under this patent?

A. Mr. Lyon: I can't tell you that [2647-293] far back. That is all of record, what was being sold.

XQ.85: Was this one of the patents that was licensed to the Cosco Manufacturing Company?

A. That is the patent that was licensed to them.

XQ.86: And it was the Cosco centralizer made by that company under that license that was used in the Jones and Berdine tests, was it not?

A. That is correct.

XQ.87: At that time were you engaged in any other manufacturing business?

A. I am unable to answer that. I have been in a good many businesses, and I am not able to tell you what I was in at that time.

Mr. Lyon: I will offer in evidence as Petitioner's exhibit next in order the copy of the patent No. 2220237, as Petitioner's Exhibit 6M and ask that it be so marked.

* * *

XQ.88: Now, in addition to that interference and the interferences that you have testified to with Mr. [2647-294] Wright, were you also involved in an interference with one Ford W. Harris on a patent application?

A. I don't know what that litigation was, that Ford W. Harris, but since you mentioned his name, I recall of some affair with him.

(Deposition of J. E. Hall, Sr.)

XQ.89: Wasn't that an interference before the Patent Office in which you actually took testimony?

A. I don't recall the fool thing; I couldn't state at this time that that is of record. [2647-295]

* * *

XQ.129: You stated that you helped—on direct examination—in the writing of this report. What part of it did you help in the writing of?

* * *

A. If I have stated that, I would like to see that in the testimony.

XQ.130: Did you state that? [2647-304]

A. I give some discussion or some talk of what the centralizer did, but to sit down and write something wherein you hand anyone information—if you discussed anything, how it should be done, you would feel that you had a part in it, wouldn't you?

XQ.131: Whom did you have that discussion with? A. That I don't recall.

XQ.132: Mr. Jones or Mr. Berdine?

A. No, I never had it with Mr. Jones, I know, because I talked with several fellows, I talked with the men that stayed out there, different fellows, about the thing several times and stood around out there where these bickets were, and I don't know whether they taken any of my language down and put it in the report. I wouldn't say that.

XQ.133: You have read the report. Do you recognize any of your language in that report?

A. I recognize the very thing that is stated, I recognize the very thing that I realized that was

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coming out of the report before the report was made. I realized that they got a pretty good cement column out there and one thing and another, and the report came out, to my opinion about what it was. I would say that I had some part to play in it, but to put my finger on a specific word, I wouldn't do that. [2647-305]

* * *

XQ.205: I am going to hand you a photostatic copy of a certificate of doing business by fictitious name, which is dated January 11, 1940, and which was [2647-320] filed with L. E. Lampton, County Clerk of Los Angeles County, State of California, on January 11, and ask you to look at the words Elmer D. Hall, signed to this on the 11th day of January, 1940, and I will ask you who signed that name?

A. I am going to answer this.

XQ.206: Just answer it. Tell us who signed it.

A. At the same time, I am going to ask you a question.

XQ.207: All right, but just answer it.

A. I signed this with permission. We had discussed it.

XQ.208: All right. Now at that time you stood up before a public official, Ida M. Murphy, and took an oath to the fact that you were Elmer Hall, did you not?

A. I don't recall that I did or not.

XQ.209: You don't recall that?

A. No, I don't. I don't recall that there was an

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oath made. If the document shows there was an oath made, there was one made.

Mr. Lyon: I will offer in evidence this photostatic copy of this certificate of doing business, filed January 11, 1940, with the county clerk of Los Angeles County, as Petitioner's exhibit next in order.

The Witness: At this time—— [2647-321]

XQ.210: You don't need any statement. You will have an opportunity on redirect examination to make any statement you want to. [2647-322]

* * *

XQ.253: How long prior to November 6, 1945, have you been manufacturing an inside-stud type scratcher? A. Ask that over again.

Mr. Lyon: Just read the question.

(The reporter read the question.)

A. At this moment I couldn't tell you.

XQ.254: Were you manufacturing an inside-stud type scratcher in 1941?

A. I think we produced docutory evidence that I were.

XQ.255: In fact, the July 7, 1941, advertisement, Exhibit Z, shows an inside-stud scratcher, does it not? A. That is correct.

XQ.256: You were manufacturing, offering that scratcher [2647-329] for sale, at that time, weren't you?

A. That is what the ad says, offering it for sale.

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XQ.257: Does your application Serial No. 388891 show an inside-stud-mounted scratcher?

A. It does not.

XQ.258: Does your application Serial No. 388891, the first application, show the close tolerance type scratcher?

A. Well, I am not able to answer that.

XQ.259: How long before November 6 of 1945 were you, as Weatherford Spring Company, manufacturing and selling close tolerance type scratchers? A. Read me that question.

(The reporter read the question.)

A. I would have to refresh my memory from some letters that we had here, to the dates.

XQ.260: All right. Go right ahead and do that.

XQ.261 (By Mr. Scofield): What letter do you want?

A. Letters wrote backwards and forwards to John, and talk to friends, and just agreeing to handle them, and we would have some in stock.

Mr. Lyon: 50, 51 and 52, I believe.

Mr. Scofield: Give him the date, and it will save trouble. [2647-330]

Mr. Lyon: I don't know the date.

Mr. Scofield: Do you want me to give him the date?

Mr. Lyon: Give him the letters. That is what he asked for.

Mr. Scofield: Attempting to save a little time, is all.

The Witness: He has got plenty of time. He is

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drawing money for it. It doesn't make any difference to him, and I can tough it out, myself.

Mr. Lyon: The witness has asked for some documents, and I am not asking to have him instructed as to what his testimony should be.

XQ.262 (By Mr. Lyon): Now, you have asked for some letters that have been handed to you, Exhibits 50, 51 and 52. Do these tell you when you first manufactured and sold the close tolerance scratcher?

A. No, they give the first information that any is being shipped that I have been able to find anything on the records.

XQ.263: Those letters tell you when the first ones were shipped, do they?

A. Yes, it tells the first ones was shipped, made and put in stock.

XQ.264: Made and put in stock [2647-331] where? A. Various places in the factory.

XQ.265: In the factory, or in retail outlets?

A. And also the retail outlets.

XQ.266: But they do establish when the close tolerance scratchers were placed in the retail outlets; is that what you mean?

A. As close as I can find, it was January 15, 1944.

XQ.267: Now, those first close tolerance scratchers had tapered coils in them, did they not?

A. Had what?

XQ.268: Tapered spring coils in them.

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A. No, they didn't have tapered spring coils. You mean the cone shaped coil?

XQ.269: How did they differ from Exhibit 49, if at all?

A. They didn't differ any at all from 49; that is a replica of them.

XQ.270: Did those original ones have one, two, three or four turns in the springs?

A. I believe I testified yesterday that they had around two coils. In reality, the radius takes off almost a half a coil; there is about one coil and three-quarters.

Mr. Lyon: Let the record show that the witness in [2647-332] answering the last question was making an inspection of the coils of Exhibit 49.

XQ.271: Now, were the turns of the wire in these first close tolerance scratchers so that each succeeding turn or a portion of a turn was of smaller diameter than the preceding turn?

A. They are.

XQ.272: And that was true of the first ones that were offered; is that correct?

A. That is true.

XQ. 273: Then it is apparent that you were selling and had placed on sale, at least as early as January 15, 1944, that close tolerance scratcher; is that correct?

A. I placed on sale at that date this scratcher that is here before us. [2647-333]

* * *

XQ.322: You have testified on direct examina-

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tion that in their scratchers there is substantially no difference in the reversing principle of the scratcher, as long as that scratcher has coils, springs and a sidewise extension of the bristles; is that correct?

A. No, I haven't testified, I don't believe, to that. Read the question there. I want to get that right.

(The reporter read the question.)

A. No, that is not correct.

XQ.323: There is a difference? In what respect?

A. I specified that they must have a coil sufficient for the resilience to make the [2647-346] reflection.

XQ.324: Correcting my statement, then, if the coil has enough turns—that is what you mean—

A. Yes, I think I testified to that, if the coil had enough turns.

XQ.325: Then it doesn't make any difference in the reversing principle, the amount of sidewise inclination of the wires, as long as there is a sidewise inclination?

A. As long as you can get enough coils in there and the springs is at the right position. [2647-347]

* * *

XQ.343: At the time you filed this application, serial No. 627013, and took the oath to that application, did you advise Mr. Scofield that you had been selling that scratcher since January 15, 1944?

A. I don't recall advising him that I was selling

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this scratcher. I advised him that I had developed a new scratcher.

XQ.344: Did you advise him that you had been selling the close tolerance scratcher since January 15, 1944?

A. I don't recall whether I advised him whether I was selling the close tolerance or not. [2647-350]

XQ.345: Did you advise Mr. Scofield prior to the filing of this application, 627013, that four years before that application was filed you had been selling a scratcher with the inside stud mounting?

A. I don't recall whether I advised him that I had been selling it four years prior. I imagine he knew it.

XQ.346: You think that he knew it?

A. Yes.

XQ.347: And your answer is also the same, that you think that he knew you had been selling a scratcher like Exhibit 49 since about January of 1944; is that true?

A. No, I am not able to state that. I don't know.

XQ.348: During the prosecution of your application, serial No. 627013, you were required to make an election of species, were you not, that is, elect what scratcher you wanted to claim in that application?

A. I don't recall that.

XQ.349: You don't recall that. Do you recall at any time discussing with your patent counsel as to which specie you should select as the one that you would claim in that application?

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A. I recall possibly pointing out what I was trying [2647-351] to develop in the way of a patent, and what the invention was.

XQ.350: Do you recall at any time pointing out to Mr. Scofield which of the forms of scratcher you would claim in that application? Can you answer that question? A. No, I can't.

* * *

XQ.351: In the application, serial No. 627013, are there three forms of scratchers illustrated in the respective drawings? And I hand you Applicant's Exhibits 39B and C. A. 39B and C?

XQ.352: Yes. A. That is correct.

XQ.353: Those three forms are the forms illustrated, as follows, one form being illustrated under Figures 1 and 2, the second form being illustrated in Figure 3? A. That is correct.

XQ.354: And a third form being illustrated in [2647-352] Figures 4, 5 and 6?

A. That is correct. [2647-353]

* * *

XQ.356: In the application, photostatic copy of which I will now ask be marked as Petitioner's Exhibit 6R, and I will offer it in evidence as that exhibit—by that exhibit number—I will call your attention to claim 1 of the application and to the latter part of that claim, which reads: "The whiskers projecting at an angle from the sleeve, simulating the trajectory of a body thrown from the sleeve, were the sleeve rotated rapidly," and I will

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ask you if you know where that definition came from? A. No, I do not.

(The exhibit offered in evidence was marked by the reporter, Petitioner's Exhibit 6R.)

XQ.357: At the time the application was filed, did you read those words?

A. No, I don't believe I did; I don't recall it.

XQ.358: You don't have any recollection. Did you read the claims at all before you signed the application?

A. Possibly I did glance over them, [2647-355] but I don't understand all there is in the claim. Claims are rather hard to read, and I explain my invention to my attorney, and he works it out to try to get the best claims he can, so I don't know the terminology of it.

XQ.359: Haven't you for many years studied the claims of your applications, to be sure that you got the most out of them, as you stated yesterday?

A. Yes, we try to, we try to study them all, but part of the application, I never spent any time reading the claims.

XQ.360: After the application is on file, you go over the claims carefully with your attorney at all times, don't you?

A. No, I don't believe I hardly ever see the application any more.

XQ.361: You never see it any more?

A. Unless something arises that interests me to take it out, but there are many applications I have

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never looked at for several years after they have been prosecuted.

XQ.362: I hand you Petitioner's Exhibit 6L, and I will ask you if the scratcher shown in the drawings of the application—with the application—are the tangential scratcher?

A. That might be the scratcher that [2647-356] we have been talking about here. This scratcher here is inside of a pipe.

XQ.363: Just answer the question, please, and I will ask that the question be read to you and ask you to answer it.

A. Read it to me, please.

(The reporter read the question.)

A. No, that is not a tangential scratcher, the true definition of tangential.

XQ.364: Why?

A. Because it is not a tangent.

XQ.365: You mean in this application of yours you do not show a tangential scratcher?

A. Not as later was defined as tangential. We used to broadly call them a tangent.

XQ.366: How was it later defined?

A. It was later defined by the Patent Office by Mr. Wright filing some protests to a tangent, and along at a later date, after we filed it and was calling it broadly a tangent, it was limited down, as I recall, to a true tangent.

XQ.367: And it is your statement right now that that definition of true tangential relationship came about as a part of some protest that Mr. Wright made to the Patent Office? [2647-357]

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A. Yes, in the Patent Office itself, and I remember——

XQ.368: Wait a minute. Was that with respect to this application Exhibit 6L, this pipe cleaner?

A. I don't recall nothing about this pipe cleaner.

XQ.369: Do you remember when that was, this protest that you are talking about Mr. Wright filing?

A. No, I don't know the date. It is of record. We could find it.

XQ.370: Was that after this 627013 application was filed? A. I don't know.

XQ.371: Was it during the prosecution of the 627013 application?

A. That I couldn't tell you.

Mr. Lyon: Was it?

Mr. Scofield: It is of record here; it has been offered.

The Witness: There is no use arguing about it.

XQ.372: All right, what was the date of it? If you are talking about a protest, let's fix the date.

Mr. Scofield: It is of record.

A. I would like to state, before that protest, Mr. Wright, my attorney, myself and everybody had talked [2647-358] about it, we were calling it a tangent, broadly, and we were limited down to it from this on, and we tried to hold to a true tangent.

* * *

XQ.373: The record now shows that the protests which you were talking about is in evidence here as Applicant's Exhibit 55, dated July 28, 1949; is that the one which you were speaking about?

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A. Yes, sir. [2647-359]

XQ.374: I notice in this patent, Petitioner's Exhibit 6K, which is the patent, I believe, issued from the application which is in evidence as Exhibit 6L, that on page 2 of this patent it is stated: "Whiskers 18 are spring mounted and extend tangentially from collars 17." And I am reading on page 2, the first column, lines 15 and 16. Does that statement cause you to change your previous answer that the whiskers were not tangential, as shown in this patent?

A. The Patent Office defined it, has defined the statement that at this time I was using and considered using it as a tangent.

XQ.375: All right. Just answer the question. I will ask that the question be read.

(The reporter read the last preceding question.)

A. As shown in this patent here, I don't recall that as only a word of calling tangent, and at that time I understand we were all using "tangent." Anyway, that was substantially a sidewise bristle. We used it as a tangent; we hadn't been defined down to it.

XQ.376: The patent you were talking about in your last answer is the patent before you, Exhibit 6K; is that true? [2647-360]

A. That is correct.

XQ.377: Now, I will ask that the questions be read to you again, and you answer the question.

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(The reporter again read the question: I notice in this patent, Petitioner's Exhibit 6K, which is the patent, I believe, issued from the application which is in evidence as Exhibit 6L, that on page 2 of this patent it is stated: "Whiskers 18 are spring mounted and extend tangentially from collars 17." And I am reading on page 2, the first column, lines 15 and 16. Does that statement cause you to change your previous answer that the whiskers were not tangential, as shown in this patent?)

A. The whiskers in there, shown in that patent, wasn't a true tangent, not anywhere close to it.

XQ.378: Now, again in this patent, on page 2, Claim 1, the line 46 to 49, I find this statement: "The tangentially extending wire whiskers or scratcher units cause the swab to constantly rotate, thus assuring even wearing of the discs." I hand you the patent, so you can ascertain that what I read is correct. What did you mean by that statement in the patent? [2647-361]

A. Well, that I have explained to you as far as I know. That was a tangent, that was a word that my attorney was using to describe the sidewise bristle, and at this time it hadn't been defined to a true tangent.

XQ.379: At what time do you mean by "at this time"?

A. Somewhere in, I believe you said a while

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ago, 1949, that this protest was made and the Patent Office defined what a tangent was.

XQ.380: And as far as you know, the Patent Office didn't at any time earlier than that define what was a true tangent in any of your patent applications?

A. That I don't know. I haven't taken the progress of the applications, and I couldn't tell you.

XQ.381: Were you present in Washington, D. C., at a time when there was an interview had with the Patent Office Examiner handling the application of this, which resulted in the issue of the patent, Applicant's Exhibit 6K?

A. Do you mean at a conference over this patent?

XQ.382: Yes. A. No.

XQ.383: To your knowledge, was any such conference ever had? [2647-362]

A. There could have been a conference, but I never had a conference over this patent here.

XQ.384: Now, have you got copies of the actions and the amendments which were filed in your applications?

A. Part of the time, and part of the time I don't.

XQ.385: Why part of the time?

A. Well, I just didn't get them all; I don't have all of them.

XQ.386: You endeavor to get all of them, don't you?

A. No, I never pay much attention to Patent Office actions.

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XQ.387: As far as you know, then, you were not present at the Patent Office on an interview had with the Patent Office Examiner——

A. As far as I know.

XQ.388: Wait a minute, wait a minute, wait a minute until I finish with it. A. All right.

Mr. Scofield: The witness already answered the question. If there is something else in the file, you may show him the file which you have before you. This is all recollection back prior to January 1, 1946.

XQ.389: An interview was had with the examiner just prior to June 19, 1945, just prior to June 16, [2647-363] 1945, at which time the Examiner stated that "tangentially" as a definition for such wires was indefinite, and suggested that such definitions should be to define that the wires extend from the body in a manner simulating substantially the trajectory of objects thrown from the surface of the body, were the body rotated?

* * *

XQ.390: Just answer the question, will you please?

A. I cannot answer it, because I don't remember it.

XQ.391: You have no recollection?

A. I have no recollection. [2647-364]

XQ.392: I will read you a portion of the amendment, dated Kansas City, Missouri, June 16, 1945, and signed by Thomas E. Scofield, and I am read-

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ing from page 34 of Exhibit 6L, and ask you if this in any way refreshes your recollection:

“The cancellation of Claims 12 and 13 eliminates the rejected claims. Claims 14 and 15 were drafted and submitted at a personal interview with the Examiner in charge of the case and the Primary Examiner kindly accorded applicant’s attorney. At the interview the Examiner’s suggestion contained in the last Office letter regarding the manner of claiming the whiskers was discussed. It was agreed that the terminology ‘extending tangentially in one direction’ lacked accuracy, and for that reason the extension of the whiskers ‘from substantially the trajectory of objects thrown’ from the body if rotated, was agreed upon. Certainly this is descriptive of the manner in which the whiskers extend from the body and clearly differentiates the invention from the Black, et al., patent, where the whiskers extend radially from the body.”

Does that refresh your recollection?

A. No. [2647-365]

* * *

XQ.393: You have no recollection at all, then, that this proposition of tangential relationship was fixed in the Patent Office in your application as early as June 16, 1945?

A. No, I have no recollection at all.

XQ.394: Now, does this fixing this definition change in any way your testimony that the patent, Applicant’s Exhibit 6K, does not show a tangential form of scratcher?

* * *

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A. My statement is that this doesn't show a tangential scratcher.

XQ.395: And that is still your statement?

A. That is still my statement.

XQ.396: I hand you patent numbered 220237, Petitioner's Exhibit 6M, and I will ask you if you understand in connection with this patent what the word "tangential twist" means?

Mr. Scofield: Where does it appear? [2647-366]

Mr. Lyon: I didn't say it appeared. I asked him if in connection with this patent he would understand what the word "tangential twist" means.

A. I don't believe I would at this point.

XQ.397: Is there a tangential twist in the bows forming the springs of the centralizer shown in this patent? A. I don't believe so.

XQ.398: You don't believe so?

A. No. It certainly wasn't intended to be.

XQ.399: What does the expression mean found in Column 1, page 3 of Exhibit 6M, second column, lines 15 to 62, wherein I will read:

"Said members being twisted both helically and tangentially as to the casing, to each present a helical, out-bowed leading edge for scraping the wall of a well bore"?

Mr. Scofield: Read him the phraseology.

(The reporter read the portion of the foregoing question containing the quotation from the patent.)

XQ.400: That is in Claim 1, Mr. Hall, if you want to read it.

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A. I don't know what it would mean. It looks to me like the attorney's language here. If he [2647-367] was going to explain a helical out-bowed twist, it looks like that would show in the drawing itself.

XQ.401: Where is that helical out-bowed twist shown in the drawings of this patent? Can you find it?

A. It would be the out-bow twist here. That is what I would take it to be.

Mr. Scofield: Pointing to Figure 2.

XQ.402: You pointed to the point which I will mark H in the drawing——

A. That is correct.

XQ.403: ——of Exhibit 6M. Is that correct?

A. Correct.

XQ.404: Now, in what manner is the word "tangential" used there? Do you know?

A. It is used there, I suppose, the same broad term that was used in the broad term the attorneys used, trying to describe the scratcher finger.

XQ.405: Does that mean a twist in the direction or a tangent?

A. It looks to me like the part there would be a twist away from the tangent.

XQ.406: Well, what is its relation to a tangent?

A. The end where it is fastened on the collar would be a relation to a tangent.

XQ.407: Doesn't that refer to a twist at the point [2647-368] where it is fastened to the collar in a tangential direction?

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A. At the point where it is fastened to the collar would be a tangent.

XQ.408: And it is at that point that the tangential twist is given to the bow, isn't it?

A. No, I don't believe so.

XQ.409: Where is it then?

A. I don't know. That has always been a problem to me. I have heard it discussed pro and con.

XQ.410: You just don't understand this patent of yours, you mean?

A. I don't understand that particular phase of it.

XQ.411: You don't understand what "tangential twist" means at all?

A. Broadly I understand.

XQ.412: All right. Where the patent claim says "twisted tangentially," you don't understand?

A. No, I don't believe you could call it tangentially. That would be a wrong phase. If it wasn't twisted at all, the spring would come nearer simulating a tangent.

XQ.413: It is twisted out of a tangent then; is that what you mean? [2647-369]

A. Yes, it is twisted out of tangent.

XQ.414: At the point where the bow connects with the collar?

A. Fastened on it, I presume you mean, I would call it twisted out of tangent.

XQ.415: At the point where the wire is attached to the collar; is that right?

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A. That is where it is in a closer tangent than any other time.

XQ.416: And it would be twisted out of the tangential relationship, as you understand it, at that point of connection?

A. No, no. It is in, it is tangent at that time, and before you twisted it out——

XQ.417: What does “twisted helically” mean to you? A. Helical, it would be——

XQ.418: Like a screw thread?

A. Like a screw thread.

XQ.419: And twisted tangentially is something different from twisted in a screw thread, isn't it?

A. Well, I think if you twisted it tangentially, you would have to twist it in relation to something else.

XQ.420: That is right. Now, in Figure 4 of this Exhibit 6M, isn't the twist that is referred to as a [2647-370] helical twist indicated just above the No. 11 with the arrow on it there?

A. I couldn't tell you, Mr. Lyon; I am not an examiner of patents.

XQ.421: Well, is there a twist at that point of the bow?

Mr. Scofield: Referring to Fig. 4?

XQ.422: Yes, just above the numeral eleven.

A. Now, what are you asking me?

XQ.423: Is there a twist in the bow that is above the numeral eleven that has the arrow?

A. I would say at that point.

XQ.424: At that point is where the twist is?

A. It looks to me like it is in some type of twist.

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XQ.425: Is there any other twist of the patent, other than the helical twist, that can be referred to as a tangential twist?

A. No, that patent was written by your friend Bill Maxwell, and you probably can get better information out of him.

XQ.426: You mean what he says would be right?

A. No, I don't believe so. He may suit you better.

XQ.427: I didn't think you would stipulate to that. [2647-371] Referring back to Petitioner's Exhibit 6R, I will call your attention to the fact that in the first office action, Paper No. 4, dated January 31, 1947, that the Examiner says, "The requirement for election of species will be insisted upon, even though applicant may argue that all the claims are generic or have been amended to make them generic," and I will hand you Exhibit 6R and show you that statement. It is there. I have my finger laid on the whole statement. I will remove my finger so you can read it. You understand, do you not, Mr. Hall, that when there is a requirement for election in an application, that means you must point out in that application which form of your invention you want the Patent Office to give you a patent on? That is correct, isn't it?

A. No, I have always turned my patent over to my attorney, and he sits down the draftsman with me, and we draw it, and we point it out, and that part of the transaction I have never had nothing

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to do with it. I have never sat down and selected the point or species, or anything to do——

XQ.428: You know of such a thing as a requirement of division in your application, don't you?

A. I have heard of it at times.

XQ.429: You have heard of it a lot [2647-372] of times? A. A few times.

XQ.430: And where there is a requirement for division, you know that means you have got to decide which one of the forms of your application you want the patent to issue on, don't you?

A. I don't know whether you do or not. You give it to the attorney, and you ask him to get the best, broadest patent you can, and you sit down and talk about it, and come up with what you get, I guess.

XQ.431: You have said that you have heard of a requirement for a division before. Now just state in your own language, what is a requirement for division?

A. I don't know. Only a request is all I know.

XQ.432: A request for what?

A. Well, a request for a division; that is all I can tell you.

XQ.433: What does the word "division" mean?

A. To divide, to cut something in two.

XQ.434: Cut it in two with respect to different forms of your invention that are shown in the single application; isn't that right?

A. I imagine so.

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XQ.435: And you have imagined that for a long time, haven't you? [2647-373]

A. I have never attempted to make a division myself.

XQ.436: Just answer the question, please. I will ask that the question be read.

(The reporter read the question.)

A. Imagined what?

XQ.437: You have imagined that it meant to divide the application up and select one form of invention?

A. I think that is of record, and I think it would explain its ownself. I don't make the requirements of the Patent Office and the rules of them.

XQ.438: Did you, in response to that requirement of the Patent Office as I read you from paper No. 4, make an election as to which form of your invention you desired the patent to issue with relation to?

Mr. Scofield: I object to that as a compound question. I also object to the question as being secondary evidence, the file itself being the best evidence, of course.

Mr. Lyon: Maybe you are right that the file is the best evidence, and the file clearly shows an election of species, and the election made.

Mr. Scofield: It is in evidence. You can argue from that. I see no reason to go through all this with the witness. [2647-374]

Mr. Lyon: Where is Exhibit 49?

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Mr. Scofield: You want the scratcher?

Mr. Lyon: Yes.

(The exhibit is produced.)

XQ.439: Would you say, Mr. Hall, that this scratcher includes the wires and each wire having a coil which is formed somewhere between the ends of the wire? A. Yes.

XQ.440: And would you say that if you cut through one of those coils that you would have a taper or conical coil? A. No.

XQ.441: Why not?

A. You just wouldn't have it,

XQ.442: Why? A. It just ain't there.

XQ.443: Why is it not?

A. You tell me why it is.

Mr. Scofield: I object to that as argument.

XQ.444: I call your attention to the fact that one coil, or portion of a coil, is smaller in diameter than that portion which is opposed, against the inner wall of the scratcher, and that the coil is wound in a helical manner, getting smaller in diameter as it progresses outwardly from the inside wall of the [2647-375] collar. Is that not a helical coil, in your definition—I mean a conical coil in your definition?

A. That may have been a conical coil, but you didn't describe this coil.

XQ.445: What I described is a conical coil, you say?

A. Possibly so. I never went close to it, but you

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probably, to listen to it, you probably described a conical coil, but you didn't describe this coil here.

XQ.446: You mean the coil on Exhibit 49?

A. That is right. Maybe you attempted or tried to describe it.

XQ. 447: Where would you say that the definition that I gave of a conical coil is not met by the coil in Exhibit 49? A. Read it.

(The reporter read the question: "I call your attention to the fact that one coil or portion of a coil, is smaller in diameter than that portion which is opposed, against the inner wall of the scratcher, and that the coil is wound in a helical manner, getting smaller in diameter as it progresses outwardly from the inside [2647-376] wall of the collar. Is that not a helical coil, in your definition—I mean a conical coil in your definition?")

A. And I said no.

XQ.448: All right. Now, I said where does that definition fail to define what is shown, what is included in Exhibit 49?

A. The definition, the conical coil is what you have in the drawing in the patent application, which is a pyramid. You don't have that here, even though you have a greater portion or—where is the spring that was lost this morning, the exhibit that somebody found?

Mr. Scofield: In this last answer——

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Mr. Lyon: He hasn't finished it yet. Let the witness finish.

Mr. Scofield: You are referring to application 627013, pointing to the paper Mr. Lyon had before you.

XQ.449: Go ahead with your answer.

A. Exhibit 41 has the spring fingers partially made that are in Exhibit 49. The helical, conical coil is a different coil than this is here. Let it be noted, as you start to wind the larger coil, and as the smaller coil is made, in this coil the smaller coil is brought to the outside diameter of the big coil, making [2647-377] one portion of the small coil swinging into the clear of your big coil orifice. In other words, you would have a plane on one side, and on the other side of your plane you have a perpendicular. This spring was made this way for a specific purpose, so the spring could be closed together. If it had been wound into a helical, conical coil, we found out later that we couldn't put the spring back together, that is make the coils lay close together, and therefore the helical coil, I have never made it.

XQ.450: How did you find out that you couldn't make it work, if you didn't make it?

A. I tried it. I have never been able to make it.

XQ.451: Is the structure shown in the patent application as the third form of your scratcher in Figures 4, 5 and 6; is that a scratcher containing a conical coil?

A. Yes, 4, 5, and 6, conical, helical coil.

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XQ.452: And that won't work, can't be made?

A. It can be made, perhaps, but you can't make it conical. I have never been able to make it into a scratcher.

XQ.453. Did you try to make it?

A. I have tried to make it many times. I have recently [2647-378] tried to develop a spring with more coils in it that would be a helical, conical, and when you wind it the springs are pulled apart, and to make it out of tempered wire, you can't make it. It is impossible.

XQ.454: Now, let me ask you something in that regard. You have spoken in your last answers about Petitioner's Exhibit 4I; is that correct? This is 4I.

A. Yes.

XQ.455: This is a close tolerance coil that was wound, apparently, on machinery, was it at the Weatherford Spring Company? Is that correct?

A. That is a spring that was evidently, was partially made by somebody. That is not a complete spring.

XQ.456: All right. The coils, the turns in the wire, were formed, apparently, at the Weatherford Spring Company; isn't that correct?

A. That is correct.

XQ.457: Now, that wire was wrapped around the pin, was it not?

A. It was wrapped around a type of mandrel, not a pin.

XQ.458: Was that a tapered mandrel?

A. That mandrel would have a spiral taper on

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one side, and on the other side it would have another [2647-379] spiral setting to make that type of spring.

XQ.459: Is there any such mandrel here in evidence?

A. I don't know. I don't believe there is a mandrel here in evidence that would make this specific spring.

XQ.460: Now, on your behalf there was brought in here a machine which was used to wrap applicant's Exhibit 43. Does that machine have on it the mandrel which you state was used to wrap the Petitioner's Exhibit 4I?

A. No, it is a smaller mandrel.

XQ.461: Is there any difference between the mandrel which was used to wrap Exhibit 43 and the mandrel which was used to wrap the coils for Exhibit 49? A. Quite a little.

XQ.462: I said 49, not 4I. I am going over to this one now.

A. Well, don't jump too fast.

XQ.463: I thought you had spoken out of turn then.

A. Well, you have handed me that, and we were talking about it. Now, 49 and 4I were wound with the same mandrel.

XQ.464: That is 4I, not 4I. A. 4-I.

XQ.465: They were both wound on the same mandrel? [2647-380] A. Yes.

XQ.466: You know that?

A. Well, they presumably was, I guess.

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XQ.467: How about 43? Was that wound on the same mandrel that 49 was wound on?

A. No, it is wound with a much smaller mandrel, but similar, same species, though.

XQ.468: Did you make close tolerance scratchers using the bending of Exhibit 43, the small mandrel and the smaller spacing of the wires?

A. Evidently they did. It is in the machine, and the machine has been used.

XQ.469: And do you know when the smaller ones were made?

A. No. Evidently, the last was made close around '48, was made with the smaller ones.

XQ.470: And they worked out just as well, in fact better than the earlier ones, didn't they?

A. Well, neither one worked too well, I will tell you that.

XQ.471: You have used in these applications, or there has been used on your behalf, a wire substantially tangential. Would you accept the definition that your son, Jesse E. Hall, Jr., gave of "substantially tangential" as one which varies five degrees from the [2647-381] tangent?

A. No, I wouldn't accept that, because I don't believe degrees would enter into it, and I may state I talked with many machinists, I have talked with many outside people, I have talked with many attorneys, and as quick as they all see it, no matter what the degree is, if it is sidewise, they call it a tangent. It is generally called a tangent, wherever you go.

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XQ.472: Would you tell me just one attorney that you ever talked to that understood the word “tangent” to mean any sidewise angle?

A. Well, I have never talked to one, only——

XQ.473: Just tell me one.

A. That didn’t consider that to be a tangent?

XQ.474: That considered any sidewise angle to be a tangent.

A. In that form there?

XQ.475: Just answer the question, please.

A. Well, I don’t know the minds of other people. I just know the words that is used.

XQ.476: Well, you can’t give me the name of a single attorney that ever thought that any sidewise inclination was tangent?

A. No, I wouldn’t say any sidewise inclination. If it was almost straight out, I think that the attorney [2647-382] would call it more or less a radial than he would a tangent.

XQ.477: Now, where between “substantially radial” and “substantially tangent” would you put a stop-line?

A. I would put the stop-line at this point, where it began to operate.

XQ.478: All right. What point is that?

A. The point somewheres close to the pitch of this——

XQ.479: You are referring to Exhibit 49?

A. I don’t know what the angle is. I would say it is——

XQ.480: Is it 45?

A. Close to 45.

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XQ.481: How far can you deviate from a 45 and get it to work, as you express it?

A. Oh, you may deviate, it will work if you push out until your tangent—it will work all the way on down until you lose the entire finger——

XQ.482: Now, the other one——

Mr. Scofield: Let him finish.

A. Then, as you push it back the other way, in a maximum diameter, it begins to lose its effectiveness as a sidewise, and begins to go back more as a radial bristle, and a lot of them would be prevented from [2647-383] running free on the pipe. It has to have that freeness to turn. The more down towards the tangent it is, the more apt to turn, so I would say that that is practically to a degree. Now, someone——

XQ.483: What do you mean? Those angles were more what you would define as——

A. Those angles were greater. I don't want to define my invention down to where someone could come in here and split a hair and make something practically just like it. My invention is broad. I don't want to define myself down to the word "tangent." I have made an invention there with side-wise bristles. We are trying to find words to express it. We are not getting a patent on a tangent. A tangent has nothing to do with it.

XQ.484: A tangent has nothing to do with it?

Mr. Scofield: Let him finish his answer.

A. A tangent is one of the words that the lawyers has picked to try to describe it, just like describing

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flying objects, a body flying off of it, that sidewise thrust is one of the broad terms. A tangent don't have nothing to do with the invention.

XQ.485: Tangent has nothing to do with it?

A. Has nothing to do with it. It is one of the statements that is in there of methods to [2647-384] describe it.

XQ.486: Tangent has nothing to do with your invention?

A. The word, if you could find another word that will express it, but we were looking for the word tangent so as to express it.

XQ.487: The Examiner of the Patent Office, or someone in agreement with the Examiner, and I believe it was the Examiner, defined that as being the angle of trajectory at which an object is thrown from the surface of a moving body. Doesn't that define it clearly to you?

A. I think the clearest——

XQ.488: Just answer the question first.

A. No.

XQ.489: You don't accept that language there?

A. I just wonder if other people accept it.

XQ.490: I am asking you.

A. I will accept in those claims any way that it can be explained and somebody understands it, and not object to it. It could have been applied to a thing being thrown off. I want to tell you, the best explanation that I know of of the type of bristle there is expressed in Mr. Caughey's letter written to Mr. Scofield concerning this in 1950.

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He used about two [2647-385] pages to express what type of tangent, what type of—what the invention is. But I don't want the Patent Office or anybody else to think that I am trying to get a patent on a tangent. I am trying to get a patent on an operating device.

XQ.491: Is there any difference whatsoever in the operation of the device shown in the three different forms of the scratcher shown in Exhibits 39A, 39B and 39C in this broad proposition that you are speaking about? A. I don't get that.

Mr. Lyon: Just read him the question.

(The reporter read the question.)

A. You mean this——

XQ.492: In all of these three forms, do they all operate the same? A. No.

XQ.493: They don't operate the same?

A. No.

XQ.494: They don't all reverse?

A. Oh, yes, they all do that.

XQ.495: That is what you are talking about, this broad proposition?

A. Other things are broad, too. You may have a truck, and you can ride on it, and still you can have [2647-386] a bicycle, and you can ride on that.

XQ.496: But the broad proposition that you are speaking about is the reversing, isn't it?

A. Yes.

XQ.497: And reversing is synonymous to rotating, isn't it?

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A. Reversing consists of rotation, but let me explain here, this thing has to go in a very critical place. Unless you make it so you can define it to that, then it defeats your invention.

XQ.498: Let's go back and answer the question. Are all three of these scratchers on Exhibits 39, 39A, 39B and 39C, equally effective, so far as your broad proposition is of reversing? Is that correct, just forgetting everything else?

A. They have the reversible feature in common.

XQ.499: And it is in common to all of them?

A. Well, the degree in all of them is not the same.

XQ.500: All right. Now, you have stated in this scratcher Exhibit 49 that the fingers were set at the best angle or the proper angle; is that correct?

A. Yes, I would say it was close to it.

XQ.501: In that particular scratcher there, how much farther, or do you know, could you go toward the [2647-387] radial and still have an operative scratcher? [2647-388]

* * *

A. Under certain circumstances I would say you could, but I don't want to define myself to that and give somebody a loophole to jump through, but I would say that the test that I have made, that it will still turn in a similar fashion, but would kind of finally break down about the half-way distance back to radial from that.

XQ.503: That 45, and the radial is 90 degrees,

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so that if we split that in half we get about $67\frac{1}{2}$ degrees; is that what you mean?

A. That is correct.

XQ.504: And from $67\frac{1}{2}$ degrees to the radial, it won't operate?

A. I didn't say that. It would begin to fail to operate. It would begin to obstruct itself. At a radial position, it won't operate.

XQ.505: You know that a radial whisker will not operate, even though you have coils in it; is that what you mean?

A. No, it won't operate.

XQ.506: Even if you had a coil spring in it?

A. It is not a matter of what you put [2647-389] in it. I have seen any amount of them used and watched that Lacey run that well——

* * *

A. Well, that is finished. I haven't seen any of them work.

XQ.507: Now, you have seen any number of attempts made to make a radial scratcher work, without success; is that what you mean?

A. What I call success, that is what I mean.

XQ.508: And that is what you mean in your application, serial No. 627013, where you state: "Wall-cleaning scratchers have been used heretofore where the whiskers or abrading wires were radially attached or anchored to the body member or collar. Coil mountings have been made in which the axis of the wires was parallel to the coil mounting. A fixed or rigid attachment to the sleeve of the

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collar is unsatisfactory because of the reciprocation of the well casing or drill pipe to which the collars are attached during the cleaning operation, distorts and deforms the wires, soon rendering them ineffective"? Now, does that statement of ineffectiveness apply to all of these types of [2647-390] scratchers theretofore discussed by you with rigid connection of wires to the collar, coiled parallel to the coil mountings, and to radial wires?

Mr. Scofield: Do you understand that question?

The Witness: Well, I understand part of it. Read that question over.

XQ.509: Does that statement of ineffectiveness in this application apply to all the scratchers that precede it? I will show you what I was reading.

A. Yes, all the radial scratchers.

XQ.510: All the radial scratchers, and all scratchers where you had rigid attachment of the wires to the collar are just as ineffective, too?

A. Where you have reciprocation.

XQ.511: Is it also true of scratchers where there is coil mounting in which wires are parallel to the coil mounting? Are they ineffective also?

A. I don't think that is—where are you going to go from there?

XQ.512: Your statement: "Coil mountings have been made in which the axis of the wires were parallel to the coil mountings." Now, is that ineffective, in that construction?

A. You haven't got a complete construction there. [2647-391]

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XQ.513: Well, what did you mean by that statement in your application? I will give it to you. That is the statement.

A. Back before that it states for the finger being radial.

XQ.514: Now, just read it, because it doesn't so state.

A. I am not interpreting no patent.

XQ.515: That is your application and you can't interpret it?

A. That is drawn up by my attorney. I would take that as a radial scratcher, and you would, too.

XQ.516: You mean that that is balled up by your attorney? What is balled up?

A. It is probably not balled up. I didn't say it was balled up.

XQ.517: What does it mean then?

A. We can probably get you a definition. I am not going to interpret the patent to you.

XQ.518: This is the application here under consideration, and you can't interpret it?

A. No, I can't, and I don't know whether you can or not, without discussion.

XQ.519: Well, I am trying to get you to discuss it, [2647-392] and you refuse to; is that what you mean?

A. I am doing the best I can. I am not able to discuss it.

XQ.520: Do you mean by the statement that is in your application that I read you here that a scratcher that has coil mountings in which the

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axis of the wires—and I suppose you mean the scratcher wires—“is parallel to the coil mountings” is ineffective on reciprocation?

A. I wouldn't say that. Let me see that application.

(The application is handed to the witness.)

XQ.521: I will show you right at the bottom of page 2, the last line, last two lines, at any rate, on page 2 of the application Exhibit 6R.

A. I think I understand that now. What do you want?

Mr. Lyon: Just read him the question.

(The reporter read the question: “Do you mean by the statement that is in your application that I read you here that a scratcher that has coil mountings in which the axis of the wires—and I suppose you mean the scratcher wires—‘is parallel to the coil mountings’ is ineffective on reciprocation”?) [2647-393]

A. That is right.

* * *

XQ.522: What do you mean in your application by the statement “fixed to the casing”?

A. Fixed to the casing? [2647-394]

* * *

XQ.526: Do you have any definition of “fixed to the casing”?

A. Well, I have a definition.

XQ.527: All right. Will you give it to me?

A. It means it is fixed, it is stationary on the casing.

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XQ.528: You mean it can't move with relation to [2647-395] the casing? Is that what you mean?

A. No, no.

XQ.529: That is not what you mean, or that is what you mean? A. That is what I mean.

XQ.530: So that either fixed or anchored to the casing means the same thing; is that right, in your expression?

A. No. Anchored could mean a little different, and so could fixed. I think you define "fixed" different, the law of your application. I recall an application where it says it is fixed to so and so by welding, and then at that point that would be fixed. If it was fixed to the casing by a method to weld it on there, you read it into the law of the application, so you would have to secure this to the casing.

XQ.531: And by that you mean that it doesn't move with relation to the casing, and it is fixed by some method so that it doesn't move with relation to the casing?

A. If that is your law of your application, yes, it is fixed.

XQ.532: I don't know what you mean by the law of the application.

A. Well, I don't know what you mean by certain [2647-396] things that you said.

XQ.533: Just define for me what you mean by the law of the application.

A. I would take an application, if it should describe how anything is fastened to anything, and then you say it was applied to the casing, by then

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it would have to be applied like the law of the application specified.

XQ.534: Now, what do you mean by rigidly attached or anchored to the body of the collar, in the statement that I will read from Page 2, Lines 27 to 29, inclusive, of your application, Exhibit 6R, which reads as follows: "Wall-cleaning scratchers have been used heretofore where the whiskers or abrading wires were rigidly attached to the body member of the collar." What do you mean by rigidly attached or anchored in that expression?

A. I couldn't tell you. I would have to study the thing.

XQ.535: You don't know what you mean by rigidly attached or anchored?

A. No. I had that application prepared by an attorney and described it to him. He was describing it there. I would say rigidly attached is rigidly attached. [2647-397]

XQ.536: Does it mean it is immovably attached?

A. Why, it certainly would.

XQ.537: All right. Now, in the same application, on page 3, line 1——

A. What are you talking about? The fingers or the collar?

XQ.538: That is your statement.

A. No, you know what you are reading about; you know what you are talking about.

XQ.539: Didn't you pay attention to what I was reading? I will read it to you again and ask you the same question over again, if you have any doubt

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in your mind. The statement is: "Wall-cleaning scratchers have been used heretofore where the whiskers or abrading wires were rigidly attached or anchored to the body member or collar," and the question is, what do you mean by rigidly attached or anchored?

A. If it is rigidly attached, so it couldn't have a knuckle joint to move in, it couldn't have a coil involved.

XQ.540: Does that include a wire which was extended just through a hole in the collar, as, for example, would be true of your structure of Figures 3 of this application, if the coil were omitted from the wire? A. In one sense of the word, yes.

XQ.541: Is that the only sense? [2647-398]

A. No.

XQ.542: What is the other sense, or senses?

A. The other sense would be just like a straight wire stuck in and be fastened without any shank. In the sense there where you have got a short shank, that is just about as positive. Just like you stuck a nail into something, if you pushed it over, it would bend, but if you had a long shank, like Wright uses on his to get his spring up and down, then it wouldn't work in that sense, so if you are going to limit it——

XQ.543: Then by the statement——

Mr. Scofield: Let him finish.

A. If you are going to limit this, the shank there has the least length to the shank.

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XQ.544: I am not limiting anything. I am trying to find out what you mean in your application by “rigidly attached or anchored——” as there used.

A. I mean if you make a spring that is rigidly attached.

XQ.545: Now, do you use the word “spring”?

A. Well, finger, we will call it a finger or bristle, that is rigidly attached without provision for it to have a resilient means in it to meet this travel from one position to another. [2647-399]

XQ.546: And the structure of the wire itself merely passing through a hole wouldn't give you such resiliency as required; is that what you mean?

A. Absolutely not.

XQ.547: It won't work at all?

A. You go out and get a B & W scratcher, and I will show you. His fastens rigidly in one way, in my opinion, and I will show you how it operates rigidly, and I will show you what I am talking of.

XQ.548: I am trying to find out what you had in mind at the time you wrote this application or signed it.

A. I had in mind any type of bristle that would be sticking out radially, that didn't have provisions in it for resilient means of allowing it to go to its farthest travel that it would be subject to.

XQ.549: You understand what the word “torque” means? A. Yes.

XQ.550: Do you mean by that that you would

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have to have some kind of a torque permitting connection between the collar and bristle?

A. No; you don't need torque. Torque is twist. I explained—— [2647-400]

* * *

XQ.562: What did you mean in the application 627013 by the words, "Substantially tangentially"?

A. You speak of anything being [2647-403] substantial, that means it is very close to it, but it is not exactly a tangent. [2647-404]

* * *

XQ.651: Do you recall writing a letter to Mr. Scofield in about June of 1945, in which you stated, "I am sending you a demonstration device"?

A. If you have such a letter, I probably can refresh my memory.

XQ.652: Do you have recollection of such a letter?

A. I don't believe I do at this moment.

XQ.653: You have no recollection of that, of sending him a demonstrator; is that correct?

A. No, I don't. I have recollection of discussing the demonstration with him, many, many times.

XQ.654: Just answer the question, and confine yourself to the question. Would you state that you did not send to Kansas City a demonstrator to Mr. Scofield? A. No, I would not.

Mr. Lyon: I will ask that the correspondence be produced with respect to the sending of this demonstrator to Mr. Scofield in June of 1945, together

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with the correspondence with respect to this demonstrator.

Mr. Scofield: Until the Patent Office [2647-423] instructs me to do so, I will act as they have indicated up to date, and not produce that correspondence.

Mr. Lyon: You refuse to produce the correspondence?

Mr. Scofield: I refuse until the Patent Office requests that I produce it, and when they request it, I will put it in their custody, in the custody of the Patent Office, and let them do with the correspondence as they see fit. I have offered to do that with any of the letters that the Patent Office may wish to see.

XQ.655: Where are such letters?

A. They were written to the Patent Office.

Mr. Lyon: Where are they? How would I know? I am asking you for such letters?

Mr. Scofield: I don't have the letters here, but such letters have been written, and you know that under the decision the Patent Office did not require us to produce them.

Mr. Lyon: The Patent Office said in its decision that they were without power to require the production.

Mr. Scofield: Well, let's look at what the Patent Office says.

Mr. Lyon: Sure; that might be a good idea.

Mr. Scofield: Is that the last or the next to the last? [2647-424]

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Mr. Lyon: That is the last. No, it was next to the last. It is in evidence here. You put it in.

Mr. Scofield: I believe it is referred to in the testimony. It is No. 4, which was a statement of the Patent Office, a motion by B & W—strike that No. 4, and say enumerating the issues before the Patent Office. The Patent Office says:

“There are pending for disposition in this case the following matters”—and under No. 4 it shows:

“A motion by B & W, Inc., to require production of documents by Hall.”

In passing upon that, on page 2 of the decision, the Patent Office says:

“These matters are disposed of as follows,” and No. 4 reads: “With respect to the motion by B & W, Inc., to require production of documents by Hall, it is noted that if the Patent Office has authority to require production of papers by a party, that authority should obviously be exercised sparingly, and only where circumstances clearly call for such exercise. The circumstances of the present case have been reviewed, but are not found to justify the requirement by the Patent Office that the documents in question be produced, and the motion by B & W, Inc., is accordingly denied.” [2647-425]

Mr. Wright: In view of what? Lack of authority?

Mr. Lyon: Go ahead and read the rest of it, Mr. Scofield, what they said right there.

Mr. Scofield: Under No. 5 they say: “The failure to produce the documents above referred to is

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not considered to justify striking out or disregarding the affidavits of Scofield and Hall, as requested by the alternative motion of B & W, Inc. However, the fact that such documents have not been produced has been considered in determining the weight to be given those affidavits.”

As I recall, that is the only mention that is made of those documents.

Mr. Lyon: Go ahead—it is your position you still decline to produce the documents?

Mr. Scofield: Yes. We have offered——

Mr. Lyon: Where is any such offer?

Mr. Scofield: It was made direct to the Patent Office by letter.

Mr. Lyon: Where is such a letter?

Mr. Scofield: Let me see if I have got it here. If I have I will read it into the record—I have it at the hotel. I will read it into the record tomorrow morning. Remind me to do so.

XQ.656: Will you show me at any place in the [2647-426] application, serial No. 627013, in any other applications that you have filed, where it is stated that the ends of the wires must contact the well bore?

Mr. Scofield: The applications, of course, are themselves the best evidence.

Mr. Lyon: I would like just to have anybody, you or Mr. Hall, point that out to me.

Mr. Scofield: Well, we will attempt to do that in our proof.

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XQ.657: Is there any place that you know of, Mr. Hall?

A. I don't recall what is in the applications, and it is a record.

Mr. Scofield: I will do a little night work and try to find it.

XQ.658: Is there any place in application, serial No. 627013, which states that the wires of the scratcher cannot be radial, as you have used the word, and still have a tangential wire scratcher, Mr. Hall?

Mr. Scofield: I object to that as immaterial to the issues in this case.

A. I don't know whether such a thing is in there or not.

XQ.659: In fact, the wires are shown, I mean, the coils are shown, radially disposed in this application, [2647-427] serial No. 627013, are they not?

Mr. Scofield: That is stipulated, and all the witnesses testified to it, as far as I recall.

XQ.660: Is there any place in that application that teaches you that you cannot have a tangential scratcher—and by a tangential scratcher I mean one where the wires are tangential to the collar—and still have the coils radial?

Mr. Scofield: That is, of course, entirely immaterial to the issues in this proceeding.

Mr. Lyon: Let the witness answer the question, Mr. Scofield.

Mr. Scofield: I object to it for that reason. It

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is entirely outside of the scope of the direct examination.

XQ.661: Can you point it out, Mr. Hall?

A. No, I can't without——

XQ.662: There isn't any such thing in there, is there? That is why you can't point it out?

A. There is a lot of things that is not in the application.

XQ.663: In fact, in order to be a tangentially disposed scratcher, according to your testimony, it is necessary that the coils be canted, as you used the word, isn't it? [2647-428]

A. We have cantered the coils.

XQ.664: Just answer the question, please.

A. No; it is not necessary to have the coils cantered.

XQ.665: Then you still can make a scratcher with radial coils and tangential wires; is that correct?

A. You can say such a thing, of course.

XQ.666: And have you done that thing?

A. I have not.

XQ.667: And then your statement that it is necessary to have the coils canted to have a tangential wire is not true; is that correct?

A. That is true in the sense I was using "tangential."

XQ.668: In what sense was that?

A. I was using that word "tangential" in a broad sense, the wire, you know, with a sidewise

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bristle, to give the best degree with the function of the scratcher.

XQ.669: You mean, then, that with a wire 45 degrees from the tangent, which would also be 45 degrees from the radial, that you couldn't have such a wire extent and have the coils radial?

A. You may have the coils radial if you wanted to make a thing and bend them in any [2647-429] direction; you could have radial or tangent.

XQ.670: Then your statement is now that you could make the coils extend in any direction that you want; is that what you mean?

A. I mean to make something that would work satisfactorily to the best results. That is what the intention is.

XQ.671: Aren't the coils arranged in Exhibit 49 substantially radially?

A. No, I would call it substantially a sidewise bristle.

XQ.672: I asked about the coils, not the bristles. Aren't the coils substantially radial?

A. Part of the coil is substantially radial, and part of it isn't.

XQ.673: And which part is substantially radial?

A. The bottom coil.

XQ.674: And isn't the coil that is inside, the part of the coil that is inside the hole, substantially radial?

A. Part of that coil is bent upward; then the coil, you have an outward——

XQ.675: And it is that bending upward that

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you resorted to to extend the wires to the position of about 45 degrees from the radial and from the tangent, [2647-430] isn't it?

A. No; that is what we used in bending your wires, but it is none in relation to the direction that we were using it in.

XQ.676: And this 45 degrees from tangent and 45 degrees from radial approximately is shown in Exhibit 49?

A. I don't want to limit the invention to that. It will work there. That wasn't the intention when they invented it; they intended to work over a large range.

XQ.677: I am not tying you down to 45 degrees in the answer. A. I know you are not.

XQ.678: I am only using that as an illustration, the 49.

A. However, you will hear talks in 1950 describing how broad that should be and how broad the invention was.

XQ.679: Just answer the question, please.

A. Read the question.

(The reporter read the question.)

XQ.680: Isn't the coil of Exhibit 49 radial at all parts except at the point where it is bent to move the wire outward to a sidewise [2647-431] inclination? A. That is correct.

XQ.681: In your opinion, or in your knowledge, rather—let's leave the "opinion" out—can you produce a tangential wire scratcher in which the coils

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are radial, and bend that wire on the wire bending machine, your Exhibit 33?

A. I haven't got 33. What is 33?

Mr. Scofield: That is what he wants. I have it over here.

(The machine is produced.)

Mr. Scofield: Read the question.

(The reporter read the question: "Can you produce a tangential wire scratcher in which the coils are radial, and bent that wire on the bending machine, your Exhibit 33"?)

A. No, because that don't make a complete spring.

XQ.682: What do you mean, it doesn't make a complete spring?

A. It only winds part of it. It takes another machine to go with it.

XQ.683: You mean with that machine alone that you couldn't bend a wire and put the coil in it and have the coil extend radially through a collar and have the [2647-432] outer end of the wire free so that it would extend tangentially to the collar?

A. Permanently fixed?

XQ.684: Just answer the question.

A. No.

XQ.685: Why not?

A. Because it doesn't make the whole spring.

XQ.686: All right. Now, taking into consideration Exhibit 34 in addition to Exhibit 33, is it your

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statement that by using Exhibits 33 and 34 that you could not bend or form a wire bristle for a scratcher in which the coil extended radially through the hole in the collar, the free end of the wire extended tangentially to the collar, and one end of the bristle was secured to the face, inner face or wall of the collar by a stud?

A. No, not as defining a tangent. As you are defining it and as we have been defining it, yes.

XQ.687: Well, I am using the definition to mean one which is practically at right angles to the radii, and is your answer still no?

A. No, it has never been, this machine has never been set to make what you would call a true tangent.

XQ.688: Is it possible to set that machine so that [2647-433] such a wire bristle can be made?

A. Yes, you can make another arm here, perhaps you could set this arm and make an adjustment to it that you could do it. If you wanted to, you could make many different types of angles.

XQ.689: In fact, in taking 33 and 34 together, with their various adjustments you could make such a tangential wire bristle as I have in this examination defined; is that correct?

A. You can take those two machines and reset them, and you can make a bristle with any angle.

XQ.690: Now, is there anything in either Exhibits 33 or 34 which prevents you from making such settings?

A. No. I have never been prevented from making such a setting. I have never desired to.

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XQ.691: In fact, in Exhibit 33 what is this piece?

A. That is a stud that goes on the other machine.

XQ.692: In Exhibit 33, we have on the face of the rotating shaft two pins, both of which are adjustably secured in position by means of Allen set-screws; is that correct?

A. That is correct.

XQ.693: Permitting you to change or alter the position of either of those pins by manipulation or [2647-434] loosening the Allen set-screws; is that correct? A. No.

XQ.694: You could change them?

A. You could change them, but you can't change the position of the spring.

XQ.695: I didn't say anything about the spring; where is the spring?

A. That is what you are trying to talk about. In other words, your conversation would have no sense to it.

XQ.696: I am only asking you if it is possible to change the two pins which are held in position with those Allen set-screws?

A. Change them in what regard?

XQ.697: Change them for another one, if you want to.

A. Well, change them for another one, and what have you done?

XQ.698: Or change the length of them?

A. That is possible.

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XQ.699: Or you could change with relation one to another? A. No.

XQ.700: Why couldn't you?

A. Because they are set in there straight; you are only going to wind a coil with them, no matter [2647-435] what you do to it.

XQ.701: Would you say you can't change their relation one to the other?

A. You only wind the coil with them.

XQ.702: The central element of this machine, Exhibit 33, is what I refer to as a stop plate, a little angle iron which is screwed by a cap screw to the angle plate on the body of Exhibit 33. That stop plate is adjustably fixed in position, is it not?

A. Only adjustable for one thing only.

XQ.703: What is that?

A. The length of the shank, that is right, after the coil is wound.

XQ.704: Is there anything which prevents that stop plate from being turned upwardly or downwardly from a direct parallel relation with the bracket that is secured to the machine?

A. Naturally, if you turn it any direction, that is all it would be, a stop; it has nothing to do with bending the spring or elevating the shank with relation to a tangent.

XQ.705: On the front face of that machine, Exhibit 33, we have what I call a cam plate, which is an angularly inclined throat; is that a correct definition of it? [2647-436] A. No.

XQ.706: Why isn't it?

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A. That is a correct definition, but that is only getting it in place. There is only one part of it there that is used for winding the spring.

XQ.707: Now, that throat, that cam plate in Exhibit 33, is adjustably secured to the body of Exhibit 33, so that it can be extended outwardly in the direction of the axis of the operating shaft?

Mr. Scofield: Parallel to it.

Mr. Lyon: I didn't say parallel; I said axially of it, in the same direction as the axis of the shaft.

Mr. Scofield: Parallel to the axis of the shaft.

XQ.708: It can be rotated through 360 degrees in its adjustment; is that correct?

A. I still say no matter how much you rotated it——

XQ.709: Just answer the question, please; is that a correct definition, statement, with respect to Exhibit 33?

A. That is a correct definition. You can turn it any way you want to, but you wouldn't wind a spring by turning it in any direction.

XQ.710: Do you know whether or not the way that you make the first turn of a coil on Exhibit 33 can be determined through a wide range by the position at which [2647-437] you adjust the cam plate which I have just defined?

A. No; I don't think you could adjust that plate to change the winding of the spring at all. If you adjust it out of adjustment, it won't wind. That is in order to keep it lined up with where it winds.

XQ.711: In your estimation, then, unless the

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vertical face of the cam plate is substantially aligned with the vertical face or end face of the shaft, you can't wind a coil? Is that your statement?

A. You can't wind a satisfactory coil.

XQ.712: What do you mean by a satisfactory coil?

A. It might throw it out of adjustment. You will wind a coil with the coils apart; that is all you can do there. You can make adjustments to make your coils close together or make them far apart.

XQ.713: What effect does that spreading of the coils have, if any?

A. One would be an undesirable type and the other would be a desirable type.

XQ.714: Why would one be an undesirable type?

A. A close wound one is desirable, because it is flexible and smaller space; a coil wound with the coils apart is undesirable.

XQ.715: In one of your regular scratchers for operation in an oil well, is the matter of such close [2647-438] winding of the coils of particular importance? A. Very much so in all of them.

XQ.716: Why in your regular line, not close tolerance but in your regular line, why is it important?

A. Because you want to keep your spring at its minimum width, so it won't take up space. It would be foolish to wind it any other way.

XQ.717: Would it in any way affect the operation? A. It certainly would.

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XQ.718: In what way?

A. It would put the coil spring out in the way of the other coils where they would hook onto it, and various different things like that.

XQ.719: Have you made scratchers in which the coils extended through the hole out to where they might abrade the wall of the hole? I mean the coils themselves.

A. Yes, we have that trouble, very much so.

XQ.720: And you have also made your regular scratchers where the coils have extended into the collar, so that they would engage the pipe, have you not? A. We try to avoid it.

XQ.721: But you have done it; isn't that right?

A. Not when they were made right. There could have been some made wrong. [2647-439]

XQ.722: Now, isn't it a matter of fact that it is solely a function of the operator who operates Exhibit 33, as to whether or not the coils are tightly jammed together, or whether they are spread outwardly or spread apart?

A. Read that question.

(The reporter read the question.)

A. No; it is the way the machine is set.

XQ.723: You mean the operator has no control of whether or not the turns are spread apart, or whether they are tightly jammed together?

A. Yes; can wilfully pull it off and pull it apart. We have a lot of trouble of that.

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XQ.724: And that happened a lot of times, as you have just stated?

A. Not intentionally.

XQ.725: What do you mean, it happened a lot of times, do you mean you had a lot of wilful operators trying to destroy your operations?

A. No, but a spring winder takes quite a little experience with those simple machines. Those machines haven't got enough adjustment on them, and you have got to have a little experience in doing it. The ones that have used them for some length of time get along much better than they did when they first started. [2647-440]

XQ.726: Now, it is your statement that the inclined face, or what I have called the cam plate, has no function; is that right?

A. Only to help the operator get it in place to start with.

XQ.727: What do you mean, help him to get it in place to start with?

A. That incline leads it up to the highest part of that crotch.

XQ.728: Have you ever operated one of these machines, Exhibit 33? A. Very much so.

XQ.729: Did you hold in the operation of one of these machines wire at all times in the apex of the inclined face and vertical face of what I have called the cam plate?

A. That is your intention to.

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XQ.730: You mean you tried to hold the wire at all times in that one spot?

A. Close to it; that is why I say you have got to be trained to do the thing.

XQ.731: You can hold it in that one spot, and you have so done it?

A. You have so done it, or if you don't so do in one spot, you will make a bad spring. [2647-441]

XQ.732: Now, when is Exhibit 33 properly adjusted in the setting of what I have called the cam plate?

A. I imagine it is in your close adjustment right now. I saw them wind some springs the other day.

XQ.733: Where is the apex of the vertical extent or side, and the inclined side of the cam plate, with reference to the in-face of the turning spindle or shaft of the machine?

A. It should be very much in line.

XQ.734: That is, this apex, what I have called the apex, which is the top or uppermost point where the substantially vertical face and the inclined face of the cam plate come together, is in line with the in-face of the operating shaft; is that your statement? A. Yes.

XQ.735: And that is where it should be?

A. That is where it should be now. That is the way it is in adjustment.

XQ.736: And it is in adjustment when it is at that point?

A. I would say so. I would like to state that in that plate that you have been talking about, that

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little pitch there was only designed to help the operator. It doesn't matter whether that is there or not, just so you have got that straight, something to [2647-442] hold the springs from going over.

XQ.737: That incline——

A. Has nothing to do with it, only just assist the operator.

XQ.738: The point of meeting of the incline with the vertical face determines the point at which you hold the wire; isn't that right?

A. When you first get it started, yes.

XQ.739: And at all times during winding?

A. Not necessarily, no.

XQ.470: Why?

A. That is all you have to get it started.

XQ.741: After you get it started, you hold the wire right still at that point and turn the crank and wind the wire with the crank?

A. But that pitch has nothing to do with the winding of the spring. It only helps to get it started. Suppose you put ten laps on there; suppose you had a long shaft and had ten laps, then you would have to have a distance to travel out ten laps, so you would have a line, and then you would lap back over the top of it with three or four laps; you would probably go off the line, I would say, one or two laps and not get away too bad. The idea is to keep it entirely lined up, is what makes a good [2647-443] spring.

XQ.742: You could put a spindle on this ma-

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chine, Exhibit 33, and wind the spring with ten turns on it, couldn't you?

A. Certainly you could, you could wind one as long as you wanted to.

XQ.743: As I understood what you told me, it was that your thumbs hold the wire in the apex of the vertical line and the inclined face?

A. When you start the spring, yes.

XQ.744: For the entire winding?

A. If you don't, your spring is liable to jump off or ride over on the top; that is the idea of getting this first spring started.

XQ.745: So you mean you hold it there and get the first complete turn?

A. You have got to hold it in alignment.

XQ.746: That alignment is determined by the adjustment; is that correct?

A. Not necessarily.

XQ.747: What has adjustment got to do with it?

A. Just to help the operator.

XQ.748: So the adjustment, then, in your opinion, makes no difference?

A. No, you can turn that entirely over and wind the spring. [2647-444]

XQ.749: You mean you can turn the cam plate entirely over?

A. Entirely over, and wind the spring, and if you are accustomed to lining them up, you can turn it plumb over, because we at one time it was some of them we had it straight. That was in order to try to help them get the alignment quickly. This

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machine was built for speed. It wasn't built for just——

XQ.750: All right, then, the proper holding of the wire in what I have defined as the apex has nothing to do, then, with how close the turns of the coil are maintained together; is that correct?

A. It has something to do with the first coil.

XQ.751: But it has nothing to do with how close the succeeding turns are held together; is that correct? A. No.

XQ.752: It is not correct?

A. You can make a thing there that all it does is hold the wire from going around, the same thing on a lathe. I have wound lots of springs on lathes. All you have is a straight arm on the lathe. It is just straight.

XQ.753: How far you take the end of the wire outward from the end of the spindle determines how close [2647-445] the turns of the wire in the coil will be together, does it not?

A. In this case you want them together.

XQ.754: I didn't ask you that question. Just answer the question that I did ask you.

A. Certainly that is what would determine it.

XQ.755: So that if you wanted to, you could turn a coil spring on Defendant's Exhibit 33 in which the turns were quite widely spaced, couldn't you?

A. Yes. What would be the object of that? This is a special spring that we are making here, and we are trying to have a machine to make that

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special spring. I don't see what your line of questions means, unless you just want to show you know something about a spring winder.

XQ.756: No, I don't pretend to know anything about a spring winder. Now, in this Exhibit 34, you have also the same head and shaft, have you not?

A. Yes, it is practically the same.

XQ.757: In fact, you could, by putting a longer spindle in the center of Exhibit 34, use that to wind springs, couldn't you?

A. Put an arm on the back and a stub on this side, and you have got the same winder over here, practically the same thing. [2647-446]

XQ.758: The difference is that in Exhibit 34 you have no back-stop plate as in Exhibit 33; is that true?

A. Yes, because you don't need one.

XQ.759: The other difference is that what I have called the cam plate in Exhibit 33 has been changed for a pin arm; isn't that right? A. Yes.

XQ.760: And that pin arm contains a pin which is held in position by an Allen set-screw, and that pin arm, the pin of that arm, is turned at about 90 degrees from the axis of the pin and is intended to pass through the coil of the spring formed in Exhibit 33? A. That is correct.

XQ.761: Now, that pin arm and the position of the part of that pin arm that is intended to pass through the coil in Exhibit 33 is adjustable through approximately 360 degrees by loosening the Allen set-screw, is it not? A. That is correct.

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XQ.762: And also the position of that pin with respect to the center and gripping pins of the operating shaft is adjustable vertically up and down, is it not?

A. What are you trying to get me to do? Tell [2647-447] you how the machine works altogether?

XQ.763: No, I am just trying to fix these things. Just tell me, you can adjust that arm carrying the pin through 360 degrees, can't you?

A. Well, I happened to see you sit here and watch the boys wind springs on it, and it has wound all the springs that is in the scratchers.

XQ.764: Just answer the question.

Mr. Lyon: I move to strike the voluntary answer of the witness and ask that the witness answer the question.

A. Do you want me to teach you how to wind a spring?

XQ.765: No, I don't. I want you to answer a simple question. A. Then ask one.

XQ.766: I did. I said the pin arm is adjustable through 360 degrees, isn't it?

A. And I said you could wind any adjustment that can be made on different springs.

XQ.767: You haven't answered my question.

A. Yes, I have answered it.

XQ.768: Have you answered the question whether it is adjustable to any 360 degree position?

A. No, it is not adjustable to that. [2647-448]

XQ.769: It can be turned. There is nothing to

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hold it in position from turning on the bolt by which it is secured, is there?

A. I mean to have it to still operate; no, you can't adjust it in any such manner.

XQ.770: It can be turned freely on the bolt, can't it?

A. Certainly you can turn it around and around, and around if you want to.

XQ.771: Similarly, the pin which carries the pin part that passes through the eye of the spring, that also can be turned through 360 degrees, can't it?

A. Now, what are you talking about?

XQ.772: I am talking about, if you will just listen to the question—read the question. See if you can understand it.

(The reporter read the question.)

A. Yes, any of those pins can be turned around and around and around and stopped in any position. Some of the positions you could turn the machine, you could get a spring on, but it isn't intended to be used that way.

XQ.773: So the machine is adjustable, universally adjustable, to meet any desired condition, isn't it?

A. To meet desired condition, to [2647-449] make springs with, it was very much adjustable for that.

XQ.774: As you have stated, it is adjustable

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so that you could with the two machines make a tangential wire bristle, and a radial coil, all in one bristle?

A. I don't know whether you could make all in one bristle or not. There would have to be a lot of alteration to it.

XQ.775: A lot of alteration to what?

A. You would have to alter the arm.

XQ.776: Alter what arm?

A. You are talking about bending the eye, are you not?

XQ.777: No, I am talking about the whole operation of forming the coil and making the eye.

A. You could make adjustments and change certain things. You can't make everything with it.

XQ.778: What would you have to change?

A. I don't know. I am not setting you up a set-up to make a tangent bristle, because I haven't made it.

XQ.779: You have never tried to see whether such a bristle could be turned with these two machines; is that right?

A. I never desired to make a bristle of that kind, because I have never had a use [2647-450] for it?

XQ.780: And you have never made, then, or never have tried to make the bristles as shown in the application, serial No. 627013?

A. Yes, I have tried to make that bristle for close tolerance.

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XQ.781: I mean the ones of figures 1 and 2 of the drawings of the application, serial No. 627013?

A. Because I have stated that the bristle, the type that we were using.

XQ.782: You don't know whether that bristle can be made, do you?

A. Certainly it can be.

XQ.783: It can be made on these two machines, can't it?

A. By adjusting and adding a part, or whatever is necessary.

XQ.784: What part would it be necessary to add?

A. I don't know. You would have to tinker with it to where you could make them.

XQ.785: So you can't say what part would have to be added?

A. I am not selling those machines. I just made a machine to make the bristle we were making.

XQ.786: You don't know of any part that would have to be added, do you? [2647-451]

A. No, I don't know of any part that would have to be added. I haven't tried to make that type of coil. [2647-452]

* * *

Mr. Lyon: In the Los Angeles case, which has been often referred to in these proceedings, which is Jesse E. Hall versus Kenneth A. Wright and B & W, Inc., a corporation, pending in the United States District Court for the Southern District of California, Central Division, C. A. No. 7839-WM,

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on Wednesday, May 25, 1949, was called as a witness for Jesse E. Hall, plaintiff, William H. Maxwell, and that testimony is report in the transcript, pages 77 to 175. I will offer that testimony at this time.

Mr. Scofield: What volume is that?

Mr. Lyon: Volume 1, and I ask that it be copied in the record, and as so copied, be received in evidence.

Mr. Scofield: It is objected to as irrelevant and immaterial to the issues here.

Mr. Lyon: I will leave this book with you. You can return it to me.

(In order not to break the continuity of the testimony of the witness J. E. Hall, presently on the witness stand, the Maxwell testimony is set out at the conclusion of the Hall testimony, beginning on page 1240. The testimony of J. E. Hall on cross-examination continued as follows):

XQ.796: (By Mr. Lyon): The year 1949, isn't it a fact that you learned of the activities of the Baker Oil [2647-457] Tool Company in the field of the manufacture of scratchers, Mr. Hall?

A. I have learned that they were manufacturing scratchers, but I don't know what date it was. I have no recollection.

XQ.797: Wasn't it along in the latter part of '49 or first part of '50?

A. I wouldn't testify so to, because I have no recollection of the date. If you have anything to

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refresh my memory, I will be glad to do so.

XQ.798: Isn't that what the so-called Caughey letter of 1950 that you have referred to so often deals with?

A. That Caughey letter would be one of the things that would refresh my memory, and at that time I don't know whether I had seen a Baker scratcher. I know the first Baker scratchers that I saw was in Bakersfield, and I don't know what time that I saw them. In fact, I bought two of them.

XQ.799: It is the competition with Baker that is the subject matter of that letter, isn't it?

A. Well, I think that what prompted Caughey to write the letter, perhaps, was the B & W's fear of Baker into the business. I don't know; it might have been mine. I don't know; I am not a mind reader. [2647-458]

* * *

XQ.801: With reference to the Jones and Berdine tests, I believe you have testified here that you did not observe any of the runs made of the B & W scratchers; is that correct?

A. I wouldn't say I did or didn't at this time, because it was a long action going on, and to actually know what they did in the pipe, I would like to tell you I didn't see them put it in the pipe.

XQ.802: You didn't see any of the runs, didn't stay and observe the running of any of the B & W tests?

A. No, I stayed there sometimes. I know at one time I must have stayed there two or three hours,

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waiting to see a certain thing that I wanted to see of my own, but I don't know what they did in the pipe.

XQ.803: You didn't see any of the scratchers tested before they were run?

A. I don't recall at this time; it has been so long ago, and I have been constantly, my mind has been constantly refreshed about the scratcher so many [2647-459] times off and on that I have often wondered now where I first did see that.

XQ.804: Would you say now that you didn't see the scratchers of the Jones and Berdine report, Figure 26 of the Petitioner's Exhibit L, placed on the pipe and run, as reported in the Jones and Berdine report, Exhibit L?

A. I wouldn't say I did or I wouldn't say I didn't. I would say that I didn't see all the operations. I saw the operations and knew what was the general principle there, but I never saw the complete detail of any part of the function. I don't think anyone did.

XQ.805: Did you see the scratcher itself on the pipe that was run? And by the scratcher I mean the one of Figure 26.

A. I couldn't testify at this time, because, as I say, I have constantly had those Jones and Berdine reports, and constantly seen it, and I was out there and knew of the circumstances, and it has been so long ago I can't recall whether I seen it or didn't see it.

XQ.806: Is your testimony the same with re-

(Deposition of J. E. Hall, Sr.)

spect to the run that was made on the B & W scratcher, the Figure 18 of the Jones & Berdine report?

Mr. Scofield: Show him the scratcher, [2647-460] will you?

(A picture is displayed to the witness.)

A. I recall seeing some of the bristles in the bickets there, as a definite situation, but so far as seeing the scratcher on the pipe, I don't know, hardly, how I could have seen it on the pipe, because it was embedded in the cement, and I don't know which one of those forms at this time that it could have been, because it could have been several of them.

XQ.807: (By Mr. Scofield): Your last answer, you are referring to the cement billets?

A. That is right.

XQ.808: (By Mr. Lyon): Is your testimony the same with respect to the form of the B & W scratcher shown in Figure 14 of the Jones and Berdine report? (Displaying same to the witness.)

A. It would be, because I have no recollection of where I first seen it. I have constantly had this information in my possession for fourteen years, and I don't know where the first knowledge of that came to me. It was all right along together.

XQ.809: Your testimony, then, is now that you did not see any of the three B & W scratchers when they were installed on the pipe; in fact, that you didn't see the construction of any of the B & W

(Deposition of J. E. Hall, Sr.)

scratchers except [2647-461] as seeing the ends of the wires in the cement billets; is that correct?

A. No, that is not correct.

XQ.810: Well?

A. That is your statement.

XQ.811: Did you see the scratchers?

A. I testified it has been so long ago at this time, that I don't recall what I seen at this time. If there was any testimony or anything, letters, that would refresh my mind, I would like to read it up. All of this has been so long ago and I have been very heavily involved, and I don't recall all of the specific instances back there.

XQ.812: Is your testimony now less clear with respect to the Jones and Berdine tests than it was when you gave your deposition on July 15, 1948?

A. Naturally it would be less clear; it would be more density, because it has been longer ago.

XQ.813: I will refer you to the deposition taken on July 15, 1948, at Los Angeles, California, before W. E. McClure, notary public, taken in the Los Angeles case, Civil Action No. 7839WM, and particularly to pages 117—beginning the last question, page 117, and over to line 5, 122, and in that testimony can it be agreed, Mr. Scofield, that the word "bolts" as used is an [2647-462] erroneous transcription, and Mr. McClure has so certified, that the word should be "balls"? That is your understanding?

Mr. Scofield: Yes, that is correct.

(Deposition of J. E. Hall, Sr.)

Mr. Lyon: And I will offer that testimony at this time in evidence, and ask that it be copied into the record.

Mr. Scofield: I object to it as immaterial.

(The portion of the deposition of Jesse E. Hall, in the Los Angeles case, here offered in evidence, is from the examination styled "Cross-Examination" by Mr. Scofield, and is as follows):

Q. Were any of your tools used out there?

A. That is right. The tool that I had been using was exhibited out there and run, and several of the tests, with, with a very high success under the method of abrading the well bore and getting a cement bond to it—to the body of the well, the formation.

Q. Who had supervision of these tests?

A. Engineers from the Union Oil Company furnished the ones they looked over. It was kind of like you might call them referees, but almost every company that furnished their own device was there to assist the fellows in running them. There were many devices there that had never been sold or never been used, and which [2647-463] considerable trouble, and they would have to take their well and remove them, and caused considerable delay. Some of us fellows had come up and had been running our tools would have to wait. They only had one little dummy well they were using for that, which went on there some months.

(Deposition of J. E. Hall, Sr.)

Q. As to the centralizers that were used out there, did you personally conduct the tests, or were they conducted by others than yourself?

A. They were conducted by others, but personally I had to do with the way they were installed, and they were moved according to my belief.

Q. Your instructions? A. That is right.

Q. Were you there when your tools were run?

A. I was.

Q. And did you see them run?

A. I saw them run in two instances.

Q. Did you read the report that was made on your tools? A. I did.

Q. You have indicated that there were some tools that were run out there that they had difficulty with. What were those?

A. B and W scratchers. They had [2647-464] very much trouble with that. They brought it out in a state, they only had a few of them made and they could not get it to work in the hole.

Q. Did you see this test?

A. I saw that test, but they went away.

Q. Who went away?

A. I don't know the men that had them there, and they came back. The next time I saw the scratchers they had the spring was straight and the next time they came back they had them twisted around and some eyes twisted in them.

Q. What was the difficulty that they had with them upon the first test?

A. They couldn't reciprocate them in the hole.

(Deposition of J. E. Hall, Sr.)

They could not pull them back up to work them to get the mud off of the bore of the well.

Q. Why not?

A. Because they wouldn't reverse.

Q. Then what did they do to them, did you say?

A. They went and twisted them. At one time they twisted and made an eye and twisted them down smaller than the bore of the well they had them in, so that they could go in, and that exhibit is run in there. That is one test. Then another they went——

Mr. Caughey: What is he talking [2647-466] about?

Q. (By Mr. Scofield): You are talking about the Jones Report which is here on the table.

A. That is right. And another time they went and welded some little bolts (balls) on the end to try and make them spread back up the hole so that they could—they wouldn't reverse in the hole, so that they couldn't work their pipe to clean it.

Q. Let us first consider the first test when the whiskers or the wires, as I understand your testimony, were extended straight out radially from the collars. What was the result of that test?

A. They didn't make the test, because they rammed it down in the well and they had to tear their well all down. They had a dummy well they would pull apart, and taken some time. I believe it was the following week that I seen the test with the crooked wires that they have, and——

(Deposition of J. E. Hall, Sr.)

Q. Is it your present testimony that the original scratchers that were furnished by B and W that were run in the well were inoperable?

A. That is right.

Q. Because they stuck in the well?

A. Yes, that is right.

Q. And then those were taken away and subsequently they came back with some scratchers on which [2647-467] the ends of the wires had been doubled back? A. That is right.

Q. Did you see the test on the second batch of scratchers that were doubled back? A. I did.

Q. Were you personally there and saw it?

A. I personally was there and inspected them and——

Q. Did you see the man who was running that test? A. It was a fellow, an assistant.

Q. A fellow assistant?

A. The fellow that was assisting them in running them was a Union Oil Company man.

Q. Do you know what the result of that test was?

A. Well, the result, as pointed out in this A.P.I. meeting, I don't believe it shows a bond.

Q. Bond between what?

A. Bond between the cement and the bore of the well.

Q. And then what happened subsequently?

A. They went and made another bunch. The same time we had to wait on this well. They made an-

(Deposition of J. E. Hall, Sr.)

other bunch and they welded little bolts (balls) on the end [2647-468] of their spring fingers.

Q. Did you see those run?

A. I seen those run.

* * *

Mr. Scofield: Before we adjourned last night there was an inquiry as to letters that had been sent between Mr. Hall and myself, concerning a second application that is here charged with fraud, and it was indicated on the record that the petitioner had made a motion for the production of such letters. That motion was served on my Washington associate on October 20, 1952. My associate filed a paper in the Patent Office in reply to that motion, and it is a short paper, and I will read it here into the record.

Mr. Lyon: We both have given notice that we rely upon the whole files anyway. It is your record; you can read anything into it you [2647-469] want.

Mr. Scofield (Reading): The motion dated October 20, filed by Petitioner, has been given due consideration. There is no sound reason in law or equity for respondent to supply to Petitioner certain letters identified in the motion. As to these letters, the affidavit of Thomas E. Scofield, Esq., counsel for Respondent, identified such parts thereof as are pertinent to any issue here involved. There is no occasion for divulging to Petitioner other parts of such correspondence, which are irrelevant to issues here presented, and which might serve to disclose confidential information to Petitioner.

(Deposition of J. E. Hall, Sr.)

“The affidavit of Mr. Scofield quotes irrelevant parts of such letters upon which Respondent relies, and the authenticity of the quotation is established by the affidavit of this credible witness.

“Should the Commissioner of Patents desire to see any of the letters identified in the motion, they will be sealed and presented to him for his inspection, with the resolution that they shall not be disclosed to Petitioner. If any of such letters are believed by the Commissioner to be relevant, they will therefore be submitted to him in camera, subject to the aforesaid reservation.”

As a result of this motion and the paper just read, the Patent Office then made its findings that [2647-470] were read into the record yesterday as part of the decision of December 9, 1952.

There was also a request made yesterday by Petitioner to point out any place in any of the applications where reference was made to the fact that the whiskers, bristles or tines of the scratchers disclosed in the Hall application were long enough to contact the bore of the well.

Mr. Lyon: I believe that is a misunderstanding of what the matter requested was.

Mr. Scofield: Maybe I did misunderstand. If you will restate your request——

Mr. Lyon: It was to point out in the application where it was stated that the ends of the wires only were effective in operation.

Mr. Scofield: I will call counsel's attention to

(Deposition of J. E. Hall, Sr.)

application 67013, particularly page 2 thereof, of the specification.

Mr. Lyon: What number?

Mr. Scofield: The full paragraph 3, beginning with the designation Fig. 1, and I will read the paragraph into the record.

"Fig. 1," referring to the drawing, "is a side elevation view, showing a scratcher embodying the invention mentioned on a well string, part of the [2647-471] scratcher being broken away, to show the method of anchoring the wire whiskers, the whiskers shown in dotted lines, illustrating the manner in which they are tensioned in the well bore."

Also on page 5 of the specifications, the same application, beginning on line 21, the specification reads:

"The coil springs, in addition, permit swinging rotation of the wires, so that the scratching elements may be rotated in any direction, while the springs keep tensioned engagement of the scratcher elements against the wall, without more than necessary friction to abrade adhering mud." I might also offer that quotation states that the application still pending in the Patent Office, serial 55619, has the same phraseology, since it is a true continuation of Application 627013. [2647-472]

* * *

RDQ.1: Mr. Hall, during your cross-examination, you were examined with respect to the manner in which a radial scratcher, a scratcher with radial

(Deposition of J. E. Hall, Sr.)

tines, functions in a well bore, and you called for a well cleaning guide, did you not? A. Yes.

RDQ.2: And one was furnished you?

A. There was.

RDQ.3: And during your answers to the examination, you proceeded to bend the wires of a wall cleaning guide during your explanation?

A. I proceeded to show the four directions the spring finger pushed down to the collar in the four directions of travel.

RDQ.4: You indicated what with respect to these wires?

A. What would happen to the wires if certain things happened to them, showing the difference between the reversible scratcher and wires anchored or secured in a certain direction, as these are.

Mr. Scofield: I now offer the wall-cleaning guide with the bent wires, which Mr. Hall used during his cross-examination, as Applicant's Exhibit No. 75. [2647-473]

* * *

RDQ.15: During your cross-examination you were examined at some length concerning the disposition of the coils in the scratchers shown in your applications appearing on Exhibits 39B, 39C and 39A. I would like to have you tell me what is the reason for disposing of the coils at an angle or in a canted or cocked arrangement, as we have used the wires here, during both your direct and cross-examination.

(Deposition of J. E. Hall, Sr.)

Mr. Lyon: Objected to as not redirect examination. Fully covered on direct examination.

A. The reason, the major reason, for extending the coil in a cocked position through the collar is to try to keep the coil enclosed in the boundaries of the collar, and when the spring finger is pushed over, allows the coil to turn somewhat on its shank, to allow the [2647-479] spring finger to go over, in bringing the coil up into the—out of the—opening of the collar to be exposed to the well bore. Where the coil is set radial, it will extend entirely through the collar, exposing at least one spring, and possibly one and a half, and then, when the finger is pushed over——

RDQ.16: By a finger, you mean the wire?

A. The wire finger, the wire bristle is pushed over or down to a smaller diameter onto the collar, it will cause the spring to lever within itself, because it is over against the wall of the collar, and it can't travel over any farther, so the spring begins a leverage within itself, and the spring coils are bent up on the back side and stretched and sprung out a considerable length, and exposing it to be rubbed against the bore of the well, dragging it off, wearing it off, so for that reason it is one of the principal reasons that we have never made a coil that is a radii, and have done a lot of experimenting, trying to get that coil in and hold it in the diameter, or in the thickness of the collar.

RDQ.17: Is there any objection to the opening

(Deposition of J. E. Hall, Sr.)

of the coil by the wires lifting the coil through the hole? A. Yes.

Mr. Lyon: That is objected to as leading, grossly so. [2647-480]

A. When wires go through the long spring wire, arm, will go over and hit the diameter of the coil, and then the end is pushed down, it will act as a prize, lever, to prize the coil back up through the hole.

RDQ.18: You are referring now to Exhibit 39A?

A. Yes. As you push them over, the coil will have its end fulcrum to turn, to relieve that. In the other case, it can't do that.

RDQ.19: What happens to the coil which is mounted when the wire has leverage down here, as you have indicated, by the bore of the well?

Mr. Lyon: That is objected to as leading.

A. It straightens up to the position that the radii spring starts from.

RDQ.20: And is that advantageous?

A. That is very much advantageous. That gives the travel part of the arm to go over to this spring coil, winding up in the position that the other one starts from, without even stretching it.

RDQ.21: Now, explain to me the function of the wire and the coil as shown in Exhibit 39C, which is the tapered coil.

Mr. Lyon: Same objection. Not redirect examination.

RDQ.22: The tapered coil was built to try to make [2647-481] a close tolerance scratcher, or a

(Deposition of J. E. Hall, Sr.)

scratcher that would stay within the collar with a very small margin, in other words, a very small distance, so that the collar would have a much smaller outside diameter than the scratcher I have just explained, the standard scratcher.

It was thought that to make a conical coil spring, pyramiding one coil with somewhat smaller diameter, just above, one above another, would do this, but the coil spring being coiled—bear in mind, we have to have a good spring, we have to have four coils. The diameter we start with, the outer diameter, we pyramid that up and wind a coil with tempered wire on a tapered mandrel or something, and you would have somewhat of a pig-tail effect. Putting the spring into a device to mash it back together, one fulcrum of the coil would go down against the other one, and one objection was you couldn't push it—in order to make the spring stay to a certain place after the temper is in the wire, you have to push it beyond that point, so when the resilience is exhausted, that the spring will fall stationary at the place you want it.

In other words, to make a coil spring in the manner shown in Exhibit 39C, I had come to the conclusion that it could not be made without revamping the entire manufacturing process that I had at that [2647-482] time, so, therefore, I have never made that spring, other than in the springs with soft wire, and to get them together.

I have been in the spring business, and I might say that one of the procedures in developing a

(Deposition of J. E. Hall, Sr.)

spring that I used, and which is customary to use throughout the spring business, is to use a soft lead wire of the size of the wire that you are working in, and by having the soft lead wire, with your fingers and with pliers you can easily make a design of a spring and get it together, so that in making a winding machine, that you could get nearer duplicating that.

When I made that model, with soft wire, I could push the spring coils together, because they weren't tempered, and they stayed, and I didn't realize that it was—what would happen at that point, using tempered wire.

It is possible to make this spring wire by heating it and pushing it together in a hot stage. I wasn't equipped to carry on that type of manufacturing, and by using that type of a coil, so that I would have at least three coils below the outer—the diameter of the collar, we have had to revamp all of the punching bigger holes and bigger alignment, so I never made that scratcher. [2647-483]

* * *

RDQ.23: Are the coils in the scratcher shown in the Acme ad of July 7, 1941, in a cocked position, or canted, or are they radially positioned within the collar?

Mr. Lyon: Objected to as leading and suggestive, and not redirect examination; examination already been fully covered on direct examination.

A. They are in a cocked position, as shown in Exhibit 39.

(Deposition of J. E. Hall, Sr.)

RDQ.24: In reproducing the scratcher of Acme advertising of July, 1941, did the witness Doble reproduce the coils in a cocked position?

A. Absolutely not.

Mr. Lyon: That is objected to on the ground the exhibit itself is the best evidence.

RDQ.25: Are the coils of the Nucoil scratcher of B & W, Inc., in a cocked position or are they in a radial position within the collar?

A. They are in a cocked position. [2647-484]

* * *

RDQ.30: During your cross-examination you were examined concerning Petitioner's Exhibit 41. Did you ever put wires into a scratcher such as are shown or appear—such as the wires that have been offered here as Petitioner's Exhibit 41?

Mr. Lyon: That is objected to as leading.

A. Absolutely not.

RDQ.31: And did you ever put wires into a scratcher which were wound with two turns in the form of a spectacle, such as is shown in the 4I Exhibits? [2647-487]

* * *

A. No.

RDQ.32: What type of wire, or what type of scratcher wire, did you ever put into a scratcher, if you did, that resembled in any way Exhibit 4I?

Mr. Lyon: That is objected to as not redirect examination.

A. That wire is just partly made through the

(Deposition of J. E. Hall, Sr.)

spring winders that it was supposed to be made by.

Mr. Lyon: That wire the witness is referring to is 4I.

A. It is like the operation of Exhibit 42, which was made to finish, to complete, that spring, so it could be used in manufacturing scratchers.

RDQ.33: And what type of scratcher were those wires used in? A. Close tolerance.

RDQ.34: Do we have one in evidence?

A. We do.

RDQ.35: What is the number of it?

A. Forty-nine. [2647-488]

* * *

DEPOSITION OF MRS. JOE E. LITTERST

Mrs. Joe E. Litterest, being duly sworn, deposes and says, in answer to interrogatories proposed to her by Thomas E. Scofield, counsel for applicant, as follows:

Direct Examination

Q.1: Would you please state your name?

A. Mrs. Joe E. Litterst.

Q.2: Are you in business?

A. Yes, I am.

Q.3: What business are you in?

A. Litterst Commercial Photo Company, located at 2807 Polk Avenue.

Q.4: How long have you been engaged in that employment?

A. I have been there myself since the early part

(Deposition of Mrs. Joe E. Litterst.)

of 1941. The business has been in existence, this is the forty-ninth year.

Q.5: I show you a photograph which has been marked for identification in this matter as Applicant's Exhibit 53. I will ask you whether or not you can identify it?

A. Yes, I can, because it has our trade-mark. That is one reason I can identify it, and in another, this particular picture happened to appeal to me, and I [2647-492] took notice of it, oh, several years ago, and put it in a separate file.

Q.6: Were you requested by me to see whether or not your concern had the original negative of this photograph which is before you?

A. My office was requested by you, and I in turn got the message.

Q.7: Did you look that matter up?

A. Yes, I did.

Q.8: Were you able to find the negative?

A. I found a negative which was made at this time, I am sure. However, it doesn't have the trade-mark on it that this one does, but many times we make a duplicate negative, especially if there is a special rush required, or if it is an intricate piece of machinery to photograph.

Q.9: Were you also asked by me to look up in your files the records to determine whether or not you could establish the date that the negative was made? A. Yes, I have.

Q.10: Have you been able to find any records

(Deposition of Mrs. Joe E. Litterst.)

by which the date of the making of the negative could be established?

A. Yes; I found the index card in my [2647-493] 1941 files.

Q.11: Do you have that card with you?

A. Yes.

(The witness produces the card.)

Q.12: What is the card that you have handed me?

A. This is the way we file our accounts for miscellaneous accounts. I say miscellaneous; it is a company that doesn't give us a great deal of business in the year. The ones that are called permanent records, we keep in a ledger, but the miscellaneous are on index cards like that.

Q.13: I note that the address on this card is 3832 Polk Avenue; is that the present location?

A. I inquired through the telephone company about this particular company here, and they are no longer in business here, I understand. They have no telephone listing, anyway.

Q.14: The address evidently was the address of the Houston Pipe Appliance Company?

A. At that time, yes.

Q.15: Can you identify the handwriting on this card? A. That is mine, definitely.

Q.16: The date in the left-hand column appears to be 6-24-41. What is your practice in making those [2647-494] out, those record cards?

A. When I first went to work there, we used to

(Deposition of Mrs. Joe E. Litterst.)

bill them the day they went out, that the photographs went out, and on the negatives we would put the date on which they were made, and later on we changed that, because we did run into confusion, and now we put the date on the negative, and the date of the billing, exactly the same.

Q.17: You have indicated that you also found the negative corresponding to the information on this card. Will you produce that, please?

A. (The witness produces a card.)

Q.18: I notice along the upper edge of this negative there appears some writing. What is that and what was the reason for putting that information along the top of the negative?

A. We file differently from most photographic concerns. We file under the company name and the date which it was made, and that is what we find on this border of the negative. It so happened, though, as I stated, that I had not been there long at this time. I went to work there in the early part of '41, and quite by accident I wrote it on the back of the negative instead of on the front.

Q.19: So that when the negative [2647-495] printed——

A. If printed correctly, the lettering up here is reversed.

Q.20: Did you make some prints of this negative?

A. At your request, I made some prints of it, and then I noticed that the lettering at the top was reversed, so I made one reverse one. I made one in

(Deposition of Mrs. Joe E. Litterst.)

reverse, on the back side of the negative, and six from the right side, so as to show the writing.

Q.21: I show you a print. Can you identify that?

A. Yes, I can. That was made from the correct side of the negative, with the lettering in reverse.

Mr. Scofield: I would like to have the reporter at this time mark the photographic copy of the card as Applicant's Exhibit No. 75. Let's change that. Let's mark these 53 A and B, so they will be associated with the print that has already been marked. Mark the photographic copy of the card which the witness has identified as Applicant's Exhibit 53A.

(The photograph referred to was marked as requested, Applicant's Exhibit 53A.)

Mr. Scofield: And mark the photographic print bearing the indicia at the top reading: "Houston Pipe Appliance Co., 3832 Polk, by Mr. Hallm. 6-23-41," as [2647-496] Applicant's Exhibit 53B.

(The photograph referred to was marked as requested, Applicant's Exhibit 63B.)

Mr. Scofield: I offer in evidence the photographic print marked Applicant's Exhibit 53. I also offer the photographic reproduction of the card which has been marked 53A and the print having the indicia at the top which I have read into the record as 53B.

Q.22: Can you explain, Mrs. Litterst, how this name happened to be H-a-l-l-m?

A. That is something that I can't explain. I

(Deposition of Mrs. Joe E. Litterst.)

guess I just misunderstood him when he told me his name. Ordinarily, I do spell a person's name, but evidently I didn't that time.

Q.23: Have you been given instructions to determine from your records whether or not there is this other negative in existence, or if the negative was prepared for some other concern? Have you been given such instructions by me?

A. To check through my files to see?

Q.24: Yes. A. Yes, I have.

Mr. Scofield: I would like to have you do so. That is all. [2647-497]

* * *

DEPOSITION OF JOHN W. EKEY

John W. Ekey, being duly sworn, deposes and says, in answer to interrogatories proposed to him by Thomas E. Scofield, counsel for applicant, as follows:

Direct Examination

Q.1: State your name? A. John W. Ekey.

Q.2: Your residence?

A. 6147 Belmont Street, Houston, Texas.

Q.3: How are you employed at the present time?

A. I am an engineer and inventory clerk, Weatherford Oil Tool Company.

Q.4: How long have you been employed by Weatherford Oil Tool? A. Three years.

Q.5: What is your educational background? You might state your age.

(Deposition of John W. Ekey.)

A. Age twenty-five; went to Technical High School, majored in Trade Drafting.

Q.6: Where?

A. Erie Technical High School, Erie, Pennsylvania; spent some time in the army as a topographic draftsman; after the army, went to Pennsylvania State College and received a degree in Mechanical Engineering in 1950; majored in machine design as much as possible in the mechanical engineering curriculum at Pennsylvania [2647-503] State College.

Q.7: What is your topographical drafting that you referred to that you did in the army?

A. It is detail drafting of maps, contouring and man-made features and so forth, all different work on any topographic map.

Q.8: How long did you work on that in the army? A. Eight months.

Q.9: What has been your experience in mechanical drawing since you got out of school? That is with what companies have you been employed and what were your duties with those respective companies? A. High school or college, sir?

Q.10: Well, if you started to work while you were in high school, why give your experience.

A. Yes, sir. Back in 1943 I went to work for the Erie Forge and Steel Company as a draftsman. I worked there until October of 1944. I did detail drawing under the design engineers of all types of mechanical devices.

Then I spent some time in the freshman work in

(Deposition of John W. Ekey.)

college under the A.S.P.R.P. Program; then the army topographic work; and after the army spent some time with the Erie Ornamental Iron Works as a draftsman, making detailed drawings of the ornamental iron from [2647-504] the architects' drawings; and then my work in school, in college in mechanical engineering.

Q.11: Were you given instructions by me with respect to the making of certain drawings in the matter that we are here litigating? A. Yes.

Q.12: What was that?

A. I was to take the——

Q.13: What were those instructions?

A. ——advertising material on the Acme scratcher from 1941, and from that make a plan and elevation drawing of the scratcher shown in the advertising. I attempted first to take the actual enlargement of that advertising and put it on a drawing board and work it back to an elevation and plan, but due to the perspective in it and the photography, it was not possible to do that, so I instead started and made a plan view and elevation and auxiliary view that will compare with the advertising.

Q.14: Did you use anything else besides the advertising itself in preparing these drawings?

A. There is an exhibit here of a half scratcher band that also was used.

Q.15: I show you Applicant's Exhibit 36 and ask you whether or not that is the exhibit you refer to in your previous answer? [2647-505]

(Deposition of John W. Ekey.)

A. Yes, it is.

Q.16: And how did you use that in connection with these drawings that you prepared?

A. I compared it with the advertising reproduction and found it to be actually a sample of the advertising, in that the number of bristles correspond to the ad and the type of bristles and the way they are installed in the collar to be that in the ad.

Q.17: I show you photostats of Petitioner's Exhibits Z and Z-1. Did you use these two papers, the advertisement and the enlargement, in connection with the drawings that you made?

A. Yes; after I compared them with this Applicant's Exhibit 36, the Exhibits Z and Z-1 were used.

Q.18: I also call your attention to a certain schedule of sizes under the word "Costs" in the ad, Exhibit Z. Did you employ that schedule at all in connection with your drawing?

A. The information contained in this advertising, including this table of costs, these cost sizes, was used, as well as some of the information in the rating, such as bristle lengths, gage of wire and such as that. I believe that is all. [2647-506]

Q.19: Did you have access at all to a photograph that was taken of the scratcher which is shown in Exhibits Z and Z-1?

A. No; I have never seen it.

Q.20: How did you go about making these drawings, and what system did you use? I would like

(Deposition of John W. Ekey.)

to have you explain that somewhat in detail, first identifying what the system was.

A. Well, as far as the system, it is just regular drafting procedure in taking any device and making a plan view and elevation view of it. The only thing different is that this includes an auxiliary view, which has a little different work on it. You just project your points at the angle you wish to have—you want to look at the object—and make an isometric drawing of it.

Q.21: What do you mean by an isometric drawing?

A. I am not aware of the definition of it. My work is from experience. The technical term and so forth, so far as isometric drawing and so forth, I don't know.

Q.22: What procedure did you use to obtain these different views?

A. I could better show that on the drawing itself.

Q.23: Will you produce the drawing you made, [2647-507] first the one of the advertising—of the scratcher shown in the advertising, Exhibit Z?

A. Here is the drawing that was made from the information Exhibit Z and Applicant's Exhibit 36.

Mr. Scofield: I request that the reporter mark the drawing as Applicant's Exhibit 78 for identification.

(Deposition of John W. Ekey.)

(The drawing referred to was marked as requested, Applicant's Exhibit 78, and handed to Mr. Lyon for examination.)

Mr. Lyon: Go ahead. You can have it.

Q.24: Mr. Ekey, I would like to have you explain what you have done in the preparation of the drawings, and what I mean by "explain," is to just describe the views, how you obtained the information for the dimensions that you have used in making the different views on this drawing, Applicant's Exhibit 78.

A. To obtain the sizes, it was necessary to determine what size scratcher is shown in that Exhibit Z. To do that, I compared the picture in Exhibit Z with this Applicant's Exhibit 36. From it I note that the number of bristles in Exhibit Z is identical with those in Applicant's—wait a minute—the number of bristles in Exhibit Z is the same as the number of [2647-508] of bristles in Applicant's Exhibit No. 36, and the placement of them is the same. Do you have that Exhibit Z?

Q.25: Yes. The advertisement itself is Exhibit Z and the enlargement is Exhibit Z-1.

A. Taking Exhibit Z-1, counting the number of bristles shown in both the top and bottom rows of bristles, I found twenty-two bristles in the top row, twenty-four bristles in the bottom row. In Applicant's Exhibit 36 there are eleven bristles in the top row of the half band, and twelve bristles in the

(Deposition of John W. Ekey.)

bottom row of the half band. This would indicate that Applicant's Exhibit 36 and the scratchers shown in Exhibit Z are the same size.

Q.26: Did you discuss this matter at all with Mr. Hall?

A. Mr. Hall agreed that the ones shown in Exhibit Z-1 and Applicant's Exhibit 36 are the same.

Mr. Lyon: I move to strike that statement—

Mr. Scofield: Wait a minute. Let him finish his answer.

Mr. Lyon: —as hearsay, as to what Mr. Hall told him.

Q.27: I asked you if you had a discussion with Mr. Hall with respect to this matter? [2647-509]

A. Mr. Hall didn't tell me that it was such and such. We discussed it, and he concurred with me that it was a five-inch scratcher, the same as the one in Applicant's Exhibit No. 36.

Mr. Lyon: I move to strike the statement of the witness with respect to the conversation had with Mr. Hall as hearsay.

Q.28: Proceed with your explanation.

A. Starting from that point, that it was a five-inch scratcher, I determined the outside diameter of the bristle as the maximum extent of the bristles, from the table labeled Cost on Exhibit Z. A five-inch scratcher is shown to have a $9\frac{3}{4}$ -inch outside diameter. I got the dimensions of the band from Applicant's Exhibit No. 36. I determined the inside diameter and outside diameter of the band, the

(Deposition of John W. Ekey.)

width of the band and size of the holes punched in the band, size of the rivets that are used, the location of the rivets with respect to the holes.

There appears to be in Exhibit Z-1 that the bristles extend from a point so as to criss-cross one another, with the outer end of the bristle in the same plane as the opposite rim. In other words, the bottom row of bristles to the top rim. This is from Exhibit Z-1. [2647-510]

Since the dimensions of the band are taken from Exhibit 36, we got the angle that the bristle makes when it comes out of the collar.

From Exhibit Z it is stated that the bristles are made of 15-gage spring wire, and three-inch and four-inch lengths, and permits effective reversing action, and the rest of it doesn't give dimensions. I didn't use them, just the dimensions just stated. Standard size of the bristle then was taken to be three inches for the outside diameter, that this three inches would be measured from the center of the bristle coil to the outer end of the bristle. Since the bristle was to criss-cross, so that the end of it was in the same plane as the opposite rim, actually the length of the bristles is three inches. From trigonometry I can determine that the length of the bristle as shown in the plan view would be 2.32 inches, or approximately $2 \frac{5}{16}$ inches.

Starting with the circles in the plan view at the measurements from the Applicant's Exhibit 36, which is $5 \frac{3}{16}$ -inch diameter of the inner rim and

(Deposition of John W. Ekey.)

5 13/16 inches for the outside diameter of the band, and dividing the plan view into two halves, since the scratcher was made in two halves, I put eleven bristles in the top half and twelve bristles in the bottom half. [2647-511]

Now, they are positioned so that the distance from the edge of the band on the top row of bristles is the same as what it is on Applicant's Exhibit 36 to give me the first hole or point, center, and that is the hole that is punched in here.

Taking that point on the outer rim of the scratcher band, I strike an arc so as to cross a circle 9¾ inches in diameter, the arc being 2 5/16 inches radius. That would give me the point that the bristle would intersect this 9¾-inch outside diameter. In other words, as far as it would extend.

Drawing a line back from this outer rim to the point from which the arc was struck gives me the angle that the bristle makes with the scratcher band.

It was assumed that the bristle coil was a tightly wound coil, as can be seen both in Exhibit Z-1 and Applicant's Exhibit 36. The angle that the bristle makes with the coil axis was seven degrees and forty-nine minutes. This is determined from the thickness of the wire, the outside diameter of the coil, of the tightly wound. That led me to then strike the line that gives me the axis of the coil itself.

As observed from Exhibit Z-1, there are five turns of wire in each coil. Exhibit Z states that it

(Deposition of John W. Ekey.)

is 15-gage wire. 15-gage wire is approximately 1/16 of [2647-512] an inch in diameter. That gave me the dimensions necessary to get that 7 degrees 49 minutes.

The outside diameter of the coil was taken from the diameter of the coils in Applicant's Exhibit 36. I said before the positioning of the coils in the band was taken from both Z-1 and Applicant's Exhibit 36. The plan view was made from all this data.

From that, the elevation view and——

Q.29: Describe, if you will, how you developed the elevational view from the plan.

A. In all drawing, the plan view was looking straight down on the device. The elevation view is looking at it from the side, so the points in the plan view extend directly down to the points in the elevation, and the dimensions from the side here, as far as width of the band, as I said before, were taken from Applicant's Exhibit 36. All just standard drafting work, developing a plan and the elevation view.

Q.30: Then how did you go about developing the angular or perspective view which is shown directly to the left of the plan view?

A. The auxiliary view was done not as looking straight down on the scratcher as in the plan view, but looking at it from an angle to the plane of the scratcher, which in this particular instance I made 45 [2647-513] degrees.

(Deposition of John W. Ekey.)

The lines are projected from the elevation view at 45 degrees for any given point in the elevation view, by using a 45-degree angle.

An additional plan in ghost up here was laid in to facilitate dimensions needed in the projection from the auxiliary down. These dimensions can be obtained from measurements in the plan view and transferred over, but since there was so many points, it was necessary to make a ghost up here. That is an overlay of the plan view, to extend down.

Q.31: And that overlay appears just above and to the left of the plan?

A. Above and to the left of the plan. Those points are projected from both an elevation and this ghost. The intersection of those points then for, say, one of these perforations in the band are laid in, and then the contour of that perforation is made in the auxiliary view.

Q.32: Has this drawing been completed?

A. No, it is not complete. It takes a considerable time to make such a drawing, and it is not complete. I only show scratchers in half the band.

Q.33: Have I given you instructions to complete the drawing? [2647-514] A. Yes.

Mr. Lyon: We will object to any alteration of any exhibit after the taking of the testimony.

A. —it has been requested that the drawing be completed.

Q.34: Is this work solely your work?

(Deposition of John W. Ekey.)

A. On this Exhibit No. 78, it is entirely my work.

Mr. Scofield: I will offer in evidence at this time a photostat of the drawing.

Mr. Lyon: A photostat won't show. It is a pencil drawing. Certainly it won't show the alleged ghost view.

Mr. Scofield: I will offer a photostat of the drawing which has been marked for identification as Exhibit 78.

Mr. Lyon: I will object to the offer——

Mr. Scofield: Just a minute. I am going to offer the drawing itself. I will offer a photostat of the completed drawing—let me change that offer—I will offer at this time the drawing itself in completed form as Exhibit 78.

Mr. Lyon: I will object to that offer on the ground that the drawing is not completed.

Mr. Scofield: Just a minute. I [2647-515] will——

Mr. Lyon: I am objecting to any change on the drawing after the witness leaves the stand.

Mr. Scofield: All right. I will offer as Exhibit 78A a photostat of the drawing in its present condition, and I will offer as Applicant's Exhibit 78B a photostat of the completed drawing.

Mr. Lyon: I will object to the latter two offers as an offer of secondary evidence, not the best evidence and incompetent, irrelevant and immaterial, and I will object to the offer of all of this evidence

(Deposition of John W. Ekey.)

as entirely incompetent, irrelevant and immaterial, and I will object to the use of the photostat or the endeavor to change or alter or allegedly complete the drawing at a time after the testimony is made, as an alteration of exhibits which are now before us.

(The completed drawing above referred to accompanies these depositions identified as Applicant's Exhibit 78; the photostat of the drawing in its present form accompanies the depositions as Applicant's Exhibit 78A, and a photostat of the completed drawing accompanies the depositions, identified as Applicant's Exhibit 78B.) [2647-516]

Q.35: Were you instructed by me to make another drawing?

A. Yes. The drawing was made under my supervision. It represents a Doble-type scratcher.

Mr. Scofield: I request that the reporter mark the drawing, which the witness has identified as a drawing of the Doble scratcher——

The Witness: Excuse me, I call it the Doble-Acme-type scratcher.

Mr. Scofield: ——the Doble-Acme-type scratcher, as Applicant's Exhibit 79 for identification.

(The drawing referred to was marked as requested, Applicant's Exhibit 79, and handed to Mr. Lyon for examination.)

(Deposition of John W. Ekey.)

Q.36: Mr. Ekey, please state what you have done in this drawing, and the procedure that you followed in obtaining the views that are shown in Exhibit Applicant's No. 79.

A. First of all, I will state this drawing was made under my supervision by another draftsman, by the name of Bob Speed. I worked up the data and he made the drawing. There is in exhibit a scratcher made by or under the direction of a Mr. Doble. I have seen that scratcher briefly, and have—— [2647-517]

Q.37: Where did you see it?

A. In Los Angeles, California.

Q.38: Did you hear Mr. Doble testify in California?

A. No, I didn't. I also have seen photographs of this scratcher, which have been offered as exhibits——

Q.39: I show you photographs, Petitioner's Exhibit JJ, Exhibit V, Exhibit W, Exhibit X and Exhibit Y, and ask you to state whether you have seen those before.

A. Those are the exhibits that I refer to. I have seen them and used them.

Q.40: I also show you Exhibits CC, DD, EE, FF and GG, all offered by the Petitioner in California; were those available to you?

A. Yes, I have seen those.

Q.41: All right, proceed and tell me how this drawing was prepared.

A. Petitioner's Exhibit JJ shows a 5½-inch

(Deposition of John W. Ekey.)

scratcher. It is of a type that I call the Doble-Acme-type wall cleaning scratcher. The dimensions for the scratcher band, the 5½-inch scratcher, I have taken partially from Petitioner's Exhibit JJ and from Applicant's Exhibit 36. As far as the width of the [2647-518] band size, holes and band diameter—not the diameter of the band, since this is 5½-inch and the other is a 5-inch.

The number of bristles can be counted in the Doble scratcher from Exhibit V. I found there were twenty-six bristles in both the upper and lower row. The band had a single weld, indicating it was made from one piece of steel, made into a circular band and welded together.

The coils of the bristles appeared to extend or be placed in the collar on a radius from the center of the band. The coils show to have four turns of wire, and they appear to be made of the same size wires as the other scratcher. So I have taken 15-gage wire with four turns per coil, with a 3-inch length bristle on a 5½-inch band. From the Exhibit A it shows a 5½-inch scratcher would have a 10½-inch outside diameter.

The photograph of Petitioner's Exhibit JJ shows the bristles to be criss-crossed, and they appear to come up to about a plane of the top of the opposite row of bristles, as shown in the elevational view on my drawing. From this 3-inch length of bristle, and the distance between the holes in the band, I determine that the length of the bristle [2647-519] in the plan view would be 2.6 inches, just a little

(Deposition of John W. Ekey.)

bit under $2\frac{5}{8}$ inches. Taking a $5\frac{1}{2}$ -inch band and dividing the outside diameter into twenty-six equal parts, it gives the location of each—the center line of each coil. Striking an arc from the intersection of the radius and the outside diameter of it in the plan view, using a 2.6 arc, and making an arc to intersect with the $10\frac{1}{4}$ -inch diameter circle, it gives the point at which the bristle would reach the outside diameter.

Drawing a line from this intersection of the $10\frac{1}{4}$ -inch circle, back to the center of the coil would give the position of the bristle relative to the scratcher band.

The size of the coil was taken to be the same size coil as in the Acme-type scratcher, made of the same type wire, having four turns per coil. Those dimensions have been given before.

The elevation view was made in the same manner as the previous elevation view, the plan view being a view looking directly down on the scratcher and the elevation a side view of it.

Q.42: Has the development of the perspective or angular view been completed in this [2647-520] drawing?

A. No, it is just started. The outlines of the band are there, but time has not permitted to finish it and get the auxiliary view, showing the bristles and everything.

Mr. Scofield: I will offer the original drawing which has been marked Applicant's Exhibit 79.

Mr. Lyon: Objected to as incompetent, irrele-

(Deposition of John W. Ekey.)

vant and immaterial, based upon fallacious assumptions.

Mr. Scofield: I will offer a photostat of the drawing in its present form as Applicant's Exhibit 79A.

Mr. Lyon: I object to the offer of any secondary evidence, or alteration of the primary evidence which is here.

Mr. Scofield: I will offer the photostat of the completed drawing as Exhibit 79B.

Mr. Lyon: I will object to any alteration of the original exhibit, or any change or addition to it after the testimony is closed.

(The completed drawing above referred to accompanies these depositions identified as Applicant's Exhibit 79; the photostat of the drawing in its present form accompanies [2647-521] the depositions as Applicant's Exhibit 79A, and a photostat of the completed drawing accompanies the depositions, identified as Applicant's Exhibit 79B.)

Q.43: I show you five sheets of drawings which have been marked here for identification as Applicant's Exhibit 25, Applicant's Exhibit 26, Applicant's Exhibit 27, Applicant's Exhibit 28 and Applicant's Exhibit 29 for identification. Will you identify those drawings?

A. These drawings were made by me in Los Angeles, California. Everything on them was put on by me except for those portions in ink, and

(Deposition of John W. Ekey.)

there is a No. 25, 26 and 27 in pencil over here that was not put on by me.

Q.44: Do you know how those drawings were made?

Mr. Lyon: Objected to as immaterial.

A. The drawings show schematically the state or condition in an oil well of Thomas Kelley & Sons, Inc., McMillan Community No. 1, back in 1939 and 1940. The information on here was obtained from the California Division of Oil and Gas report which is completed on wells in California. The [2647-522] size casing, the depth to which the casing was set, the height of the cement in the pipe, in the annulus of the hole, the tailpiece dimensions, and such as that were all taken from the Division of Oil and Gas.

Q.45: When you made the drawings, did you have the report of the Division of Oil and Gas?

A. Yes, I did.

Q.46: From what source did you get that?

A. Mr. John Hall gave it to me.

Q.47: Did you work with John Hall in connection with the preparation of these drawings?

Mr. Lyon: That is objected to as leading.

A. Mr. John Hall and I went over these reports and took off these data on them, that is as far as depth of hole, size casing and so forth.

Q.48: I show you a photostatic copy of a report which was offered in evidence as Defendant's Exhibits 17A to 17F, inclusive. Can you identify that report for me?

(Deposition of John W. Ekey.)

A. This report says that the operator was Thomas Kelley and Sons, Inc.; Field, Rosecrans; Well No.—

Mr. Lyon: I don't think it is necessary to read what the exhibits say; it is not responsive [2647-523] to the question.

A. The well number was the McMillan Community No. 1; it gives the location of the well, gives the total depth, the date drilling commenced, the date drilling was completed; it gives the casing history and completion history on this well.

Q.49: Did you and John Hall go over this report during the preparation of these drawings?

Mr. Lyon: That is objected to as leading.

A. The report shows Thomas Kelley and Sons No. 1, McMillan Community No. 1. I have labeled my drawing, so we would have some identification. The data is here as to the casing and depth to which it was set, the size hole it was set in and so forth are identical with the data that are shown in the drawing.

Mr. Lyon: I move to strike the rambling statement of the witness as in no way responsive to the question.

Q.50: How did you use this report in the preparation of your drawings? And you may refer to the drawings in succession, if you will do so, and indicate how the report was used in the preparation of each individual drawing.

Mr. Lyon: That is objected to as absolutely immaterial. [2647-524]

(Deposition of John W. Ekey.)

A. Figure No. 1 shows the status of the well on December 31, 1939. On this Exhibit 79B, under the date of December 31, 1939, it states that "cemented 6 $\frac{5}{8}$ -inch 26-pound——"

Q.51: It won't be necessary for you to read from the report. Just indicate how the data contained in the report was used in the preparation of the drawing.

Mr. Lyon: That is objected to as leading.

A. Well, that surface casing was 13 $\frac{3}{8}$ -inch, and set 1,000 feet. Exhibit 17A shows that the size of the casing was 13 $\frac{3}{8}$, depth of shoe, 1,000 feet, which would correspond to the drawing.

The drawing states 6 $\frac{5}{8}$ casing set to 7,483 feet in 10 $\frac{5}{8}$ -inch hole.

Q.52: Where was that information taken from?

A. Exhibit 17A states 6 $\frac{5}{8}$ casing, 7,483 feet; size of hole, 10 $\frac{5}{8}$.

The other data is back in the reading material. The complete depth of the hole was 7,693 feet. That is to the bottom of 7 $\frac{5}{8}$ hole.

Q.53: That drawing which has been offered in evidence as Applicant's Exhibit 25S indicates it is the [2647-525] status of the well on December 31, 1939. Why was that date put on the drawing?

Mr. Lyon: That is objected to as leading, immaterial.

A. The date that the 6 $\frac{5}{8}$ -inch casing was cemented in the well, according to the Oil and Gas report.

(Deposition of John W. Ekey.)

Q.54: Now, refer to the drawing, Applicant's Exhibit 26S, which indicates the status of the well on January 6, 1940. From what source did you get the data that is put into that drawing on this particular exhibit?

A. Exhibit 17A and Exhibit 17B.

Q.55: Now, Exhibit 27S for identification, I note that the drawing indicates that it is the status of the well on January 12, 1940. Indicate the source from which you obtained the data shown in the drawing which has just been referred to.

A. The Exhibit 17A and 17B.

Q.56: Refer now to Exhibit 28S, which indicates the status of the well on January 15, 1940, and indicate from the report where you obtained information shown in that drawing?

A. The Exhibits 17A, B, C and E.

Q.57: The last drawing marked for [2647-526] identification, 29S, indicates the status of the well on January 18, 1940. From what source did you obtain the information which is shown in that exhibit?

A. Exhibits 17A, B, C, E and F.

Q.58: Was a check made of the full report in connection with the preparation of these exhibits, 25S and 29S, inclusive, after they had been completed?

A. Will you state that again, please.

Mr. Scofield: Read him the question.

(The reporter read the question.)

A. Yes. After I finished the drawings, I went back and checked if the data shown concurred with

(Deposition of John W. Ekey.)

the data in the whole report, as to hole depth, size and so forth.

Q.59: With whom did you work in connection with these drawings? A. Mr. John Hall.

Mr. Scofield: The drawings which the witness has identified and has testified about, which have been marked for identification as Applicant's Exhibit 25S to 29S, inclusive, are offered in evidence, and will counsel agree to substitution of photostats of these drawings for the originals?

Mr. Lyon: I don't object to the use of photostats in this case. I do object, however, [2647-527] to the drawings as incompetent, irrelevant and immaterial, and, as stated by the Applicant's own witness, Mr. Sweetser, as incomplete, and leaving off the scratchers, as he has testified.

Mr. Scofield: Well, let's knock off for lunch. I am about through with this witness, so that you can make your plans accordingly.

Mr. Lyon: Have you got any other witnesses?

Mr. Scofield: I have communicated with Frantz. Frantz, as you know, is a sick man.

Mr. Lyon: No, I don't know that.

Mr. Scofield: You don't know?

Mr. Lyon: No.

Mr. Scofield: Well, at any rate, he has objected to being flown down here, so, in view of what we have put in, I don't believe I will put him on during this session.

Mr. Lyon: I take it, then, you mean there are no other witnesses?

(Deposition of John W. Ekey.)

Mr. Scofield: This is the last.

Mr. Lyon: All right. That is all I was trying to get.

Wait a minute. We will be able to get finished with this witness in about fifteen or twenty minutes. I don't know of any reason for going to lunch and coming [2647-528] back.

Mr. Scofield: No, that is perfectly agreeable with me. [2647-529]

* * *

Redirect Examination

And in answer to redirect interroratories proposed to him by Thomas E. Scofield, he says:

RDQ.1: You have indicated that if you changed the eye, the anchor eye, it would likewise change the disposition of the coil in the hole, have you not?

A. Yes.

Mr. Lyon: That is objected to as leading.

RDQ.2: Does the Doble scratcher indicate that the coil is canted or distorted in the hole?

Mr. Lyon: That is object to as leading.

A. The pictures of the Doble scratcher and the scratcher itself that I saw in Los Angeles appear to have the coil's axis on a radius. In other words, the axis would be perpendicular to the outside of the band.

RDQ.3: And did you attempt to follow that disposition of the coil in that preparation of Applicant's Exhibit 79?

A. Applicant's Exhibit 79 shows the coils placed

(Deposition of John W. Ekey.)

on a radius. The coil axis is on a radius [2647-541] of the opposite band, and, as given in my previous testimony, that was the basis for starting of this positioning.

Mr. Scofield: That is all the redirect.

Mr. Lyon: That is all.

That concludes the Applicant's testimony?

Mr. Scofield: Yes, that concludes the [2647-542] depositions.

* * *

ROY BOWERSOCK

resumed the stand as a witness on behalf of the plaintiff and, being duly sworn, testified further as follows:

The Court: You were sworn and testified previously?

The Witness: That is right, your Honor.

The Court: All right. The plaintiff's case in chief is being reopened pursuant to reservation to recall Mr. Bowersock. [2663]

Redirect Examination

(Continued)

Mr. Scofield: May I have the sales schedules that were marked, starting with Exhibit No. 175-C?

(The clerk hands documents to Mr. Scofield.)

By Mr. Scofield:

Q. You have testified before in this cause, Mr. Bowersock? A. Yes, sir.

(Testimony of Roy Bowersock.)

Q. Did you make a trip to Houston in the early part of December? A. Yes, sir.

Q. Who went with you?

A. Mr. Knapp, a public accountant of Long Beach, and John Ekey of Weatherford Oil Tool Company.

Q. Will you identify those gentlemen?

A. Mr. Knapp is the public accountant employed by B and W and in whose office I was asked to make sales analyses, and Mr. Ekey is with Weatherford Oil Tool Company.

Q. When you arrived at Houston, what was done?

A. We completed certain analyses that we were not able to finish in the offices of Mr. Knapp with the records here available in Long Beach.

Q. What records did you have there at Houston?

A. They were the records of the distributors of B and W that we had requested J. L. Robinson—I will have to refer [2664] to these (producing documents). We requested those of W. L. Somner, J. L. Robinson, Fuller Equipment Company, Hub Supply and Louisiana Supply Company, and they were the Houston records that had all the sales invoices—I mean had the delivery tickets and the original copies of the sales invoices that we were interested in looking at, at Houston.

We had previously seen copies of the Houston office invoices that had been sent over to Long Beach, but with respect to these particular com-

(Testimony of Roy Bowersock.)

panies we had not, and we weren't able to get the ultimate consumer, and hence we went to Houston in order to look at the original files of B and W, Incorporated, which, as I say, included the delivery tickets and other items to reflect this data.

Q. Where were these documents located, these records at Houston?

A. They were located at the office or warehouse of B and W, Incorporated. Actually they were examined in the hotel room of Mr. Knapp rather than in the office of the company there.

Q. Now, what were you actually furnished there by Mr. Knapp, that is, I want you to itemize, if you will; were they invoices, sales tickets, delivery tickets, or just what was furnished you by Mr. Knapp?

A. Well, as I say, they were the B and W copies of billings to these particular companies, and along with the [2665] delivery tickets and orders, and so forth; and in the case of the distributors there were also copies of their invoices to customers.

For example, J. L. Robinson bills customers, and copies of the invoices of J. L. Robinson to the customers were in the files in Houston. The same with the other distributors.

Q. Now, who besides the distributors were you furnished, that is, were you furnished with copies of invoices of the supply stores, by Mr. Knapp?

A. We only asked for Louisiana Supply Company and Hub Supply Company—no, wait a minute. Hub Supply is a distributor. I believe it is Somner,

(Testimony of Roy Bowersock.)

W. L. Somner Company, and they were the only ones we requested other than the three distributors, Robinson, Fuller, and Hub Supply.

Q. Were you able to find from these records—were you able to determine from these records how sales were made of B and W scratchers and centralizers, and I mean by that whether the sales were made by B and W direct, whether they were made through distributors, or whether they were made through supply stores, or in all three ways, that is, were you able to determine from these records, these sales records, how sales were made?

A. Yes, sir. Sales were made in all three ways, principally through—in the case of the supply stores, through B and W billing the merchandise to the supply store [2666] and then the supply store bills out to the customers. And in the case of the distributors, they may sell also to supply stores as well as directly to the consumer.

In any case, on these copies of the invoices, particularly in the case of the distributors, the ultimate consumer was marked on their invoices in most cases, even though it was billed to a supply store.

Q. That is, where the distributor made the sale?

A. That is right. For example, if J. L. Robinson were to bill a supply store, as a rule the ultimate consumer would be shown on the invoice.

Q. How about where the distributor made the sale direct to a customer, was the ultimate consumer shown on the invoice?

A. Yes, copies of the distributor's invoices were

(Testimony of Roy Bowersock.)

in the file, and, as a consequence, if it was made direct to the customer it would be billed to him.

Q. Now, how about the B and W sales, were there any sales made direct by B and W to the customers, to the ultimate customers?

A. You understand that in your request for my trip to Houston, we did not look at all of the sales records in Houston of B and W when we were there, and we were not really interested in any sales other than the ones made through these five parties. We did not look at any billings to [2667] anybody in Houston. We did so inspect their invoices here at Long Beach, or the copies that we had of the Houston invoices, and there were some cases where they sold direct to the consumer.

* * *

Q. (By Mr. Scofield): Did you find, from the Houston sales records, whether B and W had made any direct sales to the Gulf Oil Company, to the Standard of California, to the California Company, or to Amerada?

The Court: That is only four, I believe.

Mr. Scofield: What is the fifth?

Mr. Subkow: The Texas Company.

Q. (By Mr. Scofield): Or The Texas [2668] Company?

A. Not from these Houston records, no, I did not; no direct sales.

Q. How did you find that the sales were made to these companies, principally?

(Testimony of Roy Bowersock.)

A. They were made through supply stores or the distributors.

Q. And did you find that the invoices or the delivery tickets of the supply stores and distributors indicated the ultimate customer?

A. Well, I will make this statement, that insofar as the distributors were concerned, there was rarely a delivery ticket in the files at Houston, but there was a copy of the distributor's invoice which indicated the ultimate consumer.

The delivery tickets were available with respect to all direct shipments by B and W, Incorporated to a customer, but the bulk of them, insofar as the distributors were concerned, were on copies of the invoices of the distributors. [2669]

All of these distributors had billings under their own names. For example, J. L. Robinson billed out as "J. L. Robinson," and copies of his invoices were furnished to B & W and they were in the files; and that is the source of our information with respect to sales to destination.

Q. Was there any explanation made to you why copies of these distributors' invoices were in the B & W sales records?

A. Well, I have an understanding, but I am not too sure whether it was something that Mr. Knapp and I surmised or whether it is fact. In other words, I understand that they were prepared to furnish copies of invoices to B & W, but I would hate to state that as a fact or I was told that as a fact.

Q. In any event, you found them there?

(Testimony of Roy Bowersock.)

A. Yes, sir.

Q. What did you do with these sales records on your arrival in Houston and when you had been furnished them or they had been made available to you by Mr. Knapp? How did you go about preparing these schedules and charts?

A. Well, may I clarify something, Mr. Scofield?

Q. Go ahead.

A. You will understand that the bulk of the analyses were made out here in Mr. Knapp's office in Long Beach and that we prepared analyses in the same fashion that I had [2670] previously prepared with respect to the Weatherford sale showing on all invoices that indicated one of these companies: Texas Company, Union Producing, Gulf Oil Companies, the case of Amerada's California sales only, and they have left one out. But those companies that have been mentioned, we have analyzed the sales of scratchers and centralizers to these corporations as indicated on the invoices or the copies of the invoices.

In the case of sales made by B & W through their Houston office there was simply copies of those invoices in Long Beach office and they were analyzed along with the Long Beach invoices. And then we realized that because certain of these exhibitors and a couple of supply companies did not show in some cases the ultimate user, that the original records might show that, and then that information we picked up down in Houston and added it to our analyses previously made, and then completed

(Testimony of Roy Bowersock.)

monthly summaries and totalized those in the same fashion that we had previously totalized Weatherford sales by months throughout the period from January 1, 1947, through October, 1953.

Q. So your preliminary work had been done in Long Beach? A. That is correct.

Q. And what you did in Houston was to take the sales that were made available and supplement the Long Beach work? [2671]

A. That is right.

Mr. Scofield: Your Honor, to simplify this matter for you—I hope we have simplified it—we have marked, for instance, the summary sheets and the detailed sheets, for instance, of the Gulf Canadian Oil Company by the same exhibit number, but a different letter, as the exhibits numbers that were given the Weatherford sales records that were previously put in in the record.

For instance, the Gulf Oil Company sales schedules were offered as Exhibits 175 and the charts as 175-A, 175-B, and 175-C. Now we have marked the B & W sales records, that is, the summary sheets and the detailed sheets, as Exhibit 175-C, and we have marked the charts as 175-D, 175-E, 175-F, and 175-G.

And in every case we marked B & W sales schedules and charts with a corresponding number to the number that was given the Weatherford sales charts or sales schedules and records.

So I make that short explanation in order that

(Testimony of Roy Bowersock.)

you will have that in mind when the witness testifies about it.

Q. I put before you Exhibits 175-C, 175-D, 175-E, 175-F, and 175-G for identification.

The Court: All of those have to do, as I understand it, with——

Mr. Scofield: Gulf Oil Corporation. [2672]

The Court: ——B & W sales to Canadian Gulf Oil Company?

Mr. Scofield: Yes, sir; Canadian Gulf Oil Company. [2673]

* * *

The Court: Is there any contention that the plaintiffs here are entitled to damages for loss of sales of centralizers?

Mr. Scofield: Yes, your Honor, because in the case of [2674] all these—not “of all” these companies—but the case that we have chosen, and there are some other companies, the sale of the centralizers was directly influenced by the sale of scratchers; that is, where the scratchers were cut off, the centralizers were cut off simultaneously; that it was an aftermath of the cutting off of these scratcher sales. [2675]

* * *

Q. Now I would like to have you explain how you prepared the detailed schedule, and then how the MC or monthly combination sheets were prepared and the significance of the summary sheets, if you will.

(Testimony of Roy Bowersock.)

A. These detailed sheets were prepared, with my instructions to a public accountant, W. D. McDonald, in Long Beach, and he sent them direct to me by mail. Along with Mr. McDonald, the John Ekey that I mentioned a few minutes ago who was with Weatherford Oil Tool, he was present and assisted also in this detailed tabulation, and Mr. McDonald sent these sheets to me, giving a copy of them to Mr. Knapp, B & W's accountant.

Now, along with that group of sheets they sent certain sheets of wells, where the well was designated but not the name. It was not known whether it was Canadian Gulf or what company it was. That is shown on pages 11, 12, 13, and 14; and there is an attached memorandum here on page 10 that is signed by Mr. McDonald, Mr. Knapp, and John Ekey to the effect that these wells were listed down simply because we wanted to ascertain whether or not they were Canadian Gulf Oil Corporation sales.

We found that the bulk of them were Canadian Gulf and [2677] they are marked with a "G" on the pages 11 to 14 just beside the invoice number, a heavy "G." That was in accordance with my instructions to Fred Drury who is sales manager of Weatherford, Ltd., and who testified in this court. And Mr. Drury checked the well numbers and wrote the letter that is shown as page 9 in this bunch of papers; and he indicates that the wells marked "G" were Canadian Gulf's. So we have then included those on the summary by means of

(Testimony of Roy Bowersock.)

the monthly combination sheets numbers MC-1 and MC-2, combining the two sets of figures and arriving at the total for the different months shown on S-1, the summary sheet. [2678]

* * *

Q. (By Mr. Scofield): How many of these detailed sheets are there in Exhibit 175-C? They are numbered from 1 to what? A. 1 to 14.

Q. And what period did they cover?

A. They covered from April 1, 1951, to October 31, 1953.

Q. Now, from what sales records were those taken?

A. They were taken from copies or from Import Tool's records, from copies of Import Tool's sales records; in fact, from their retained files, copies, etc., their files which were sent down to Mr. Knapp's office and made available to us for use in this analysis.

Q. So these Import Tool's sales invoices did actually indicate the ultimate customer, except in those few cases that you have indicated?

A. That is correct; in the main they indicated the ultimate consumer. There were some cases, some few cases, where the billing from Import Tool to a supply store and it would not indicate the ultimate consumer, but we have had [2679] that all the way through. There were some such cases, but in most cases they indicated the ultimate consumer. And these documents were supplied of the two re-

(Testimony of Roy Bowersock.)

tained copies, apparently the very files of Import Tool Company and the copies that we had previously—rather, the transcript, were not copies; they were just transcripts from sales invoices showing a name of the billed to and the items of merchandise, but did not show any ultimate users or give any address of the names.

Q. Were there any of these Import Tool invoices that did not indicate the ultimate consumer, besides the ones that indicated the sales?

A. Yes, there were some that did not indicate the ultimate user.

Q. What percentage was there of these Import Tool invoices that did not indicate the ultimate customer?

A. Well, I have been informed that there was a very small percentage of them.

Q. After the——

A. And we were—understand, Mr. Scofield——

Q. Pardon.

A. ——that we were not permitted and have not been, all the way through, nor did we request—that we were not permitted to list down these sales or make any analysis so that we had total sales through any supply company, or any sales to any other company except these companies that we [2680] are interested in such as Canadian Gulf, Texas Company and the rest of them, so we would be unable to say just exactly what percentage, but it was small.

Q. Were any of the sales in Canada, to your

(Testimony of Roy Bowersock.)

knowledge, made through supply stores? Could you tell from these sales records?

A. Were any of them made through supply stores?

Q. Yes. A. Yes, sir; all of them were.

Q. All of them made through supply stores?

A. That is correct.

Q. Did not Import Tool Company make any sales direct to the customer? A. No.

Q. All right. After the detailed sheets were prepared for the Canadian Gulf how did you prepare the summaries therefrom, or how did you first prepare the monthly combination sheets?

A. The monthly combination is simply a combining of the figures on these pages 1 through 8, monthly totals there of these additional ones that we found due to the fact that we just had the well number and then found they were Canadian Gulf's on 10 to 14. They were combined together on MC-1 and -2 to get a monthly total. In the case of the months where they were not figures on both sets of papers [2681] we simply pulled over the monthly figure shown in the detailed sheets.

For example, for 1951, on page 1 of the detailed sheets, we have August sales there, and there were no corrections of that, so that was brought over into the summary sheet as August sales.

Q. Who actually did this work on the Import Tool sales records?

A. It was done by Mr. W. D. McDonald.

Q. That is "J.M.," I believe, Mr. Bowersock.

(Testimony of Roy Bowersock.)

Q. Oh, excuse me. Mr. J. M. McDonald, a Long Beach accountant, a certified public accountant, and John Ekey of Weatherford Oil Tool Company.

Q. After those sheets had been prepared did Mr. Ekey go over the records with you?

A. Did he go over these sheets with me?

Q. Yes. A. Yes.

Q. Where was that done?

A. In fact, you understand that I got these sheets directly from McDonald through the mail, and then I also reviewed them with Mr. Ekey; and you understand, also, that copies of those were left in the hands of Mr. Knapp. He had carbon copies of all the analyses that we made, except that they were not totalized. [2682]

Q. Did Mr. Knapp, the B & W accountant, sit in while Messrs. McDonald and Ekey made up these reports?

A. Yes, constantly. He, of course, did not sit in on the summarizing of it.

Q. Where did you go over this matter with Mr. Ekey? A. In Weatherford, Texas.

Q. Did you personally make the inquiry, or did Mr. Ekey make the inquiry from Mr. Drury as to these sales that had been duplicated on the invoice but the company had not been indicated?

A. I made the inquiry.

Q. You made that inquiry personally?

A. That is correct.

(Testimony of Roy Bowersock.)

Q. Now, I would like to have you put before you the first chart, which is marked Exhibit 175-D, I believe, and explain what that shows.

A. This is a chart reflecting the same data shown on the Exhibit 175-C, the monthly sales in chart form.

Q. That is the sales of what?

A. Excuse me. This is the sale of scratchers, only, made by Import Toll Company to Canadian Gulf Oil Company, and it reflects with respect to the scratchers the same information that is shown on the summary on Exhibit 175-C. [2683]

The scale at the left-hand side is the dollar volume, \$500, \$1,000, and \$1,500, and so forth, and then the years and months are at the bottom.

Q. (By Mr. Scofield): That is the horizontal scale?

A. That is right. And the sales—the first sales were in August of 1951, and then it continues through October of 1953.

Q. Who prepared this chart?

A. This chart was prepared by Mr. Ekey, by my instructions.

The Court: Who is Mr. Ekey?

The Witness: John W. Ekey is with the Weatherford Oil Tool Company.

Q. (By Mr. Scofield): Is he an accountant?

A. He is an engineer, your Honor.

Q. Did he assist you in preparing these schedules of Weatherford?

A. That is correct. He did.

(Testimony of Roy Bowersock.)

Q. And he worked with Mr. Knapp and Mr. McDonald on these schedules?

A. That is right.

Q. Now, I put before you Exhibit 175-E and will you explain what that chart shows?

A. This is a chart of the sales of centralizers, of B and W centralizers, by Import Tool Company to Canadian [2684] Gulf Oil Company, and in the same manner, it was prepared from the figures shown on this, on the summary sheet of Exhibit 175-C.

Q. And does the chart indicate the dollar value of sales and the period? A. That is correct.

Q. The same period?

A. In the same manner that the chart with respect to scratchers indicates.

Q. Now, you have a chart, I believe, Exhibit 175-F. Will you briefly explain what that shows?

A. This Exhibit 175-F represents the sales in dollars of scratchers, made both by Import Tool Company to Canadian Gulf Oil Company and by Weatherford, Ltd., to Canadian Gulf Oil Company, and the sales of Weatherford scratchers are designated by the crossed lines, I mean there is a key over here at the right, and then two lines and then a space designates the Weatherford sales, and then the checked area represents the B and W sales of scratchers to Canadian Gulf Oil Corporation.

Now, for example, in the case of August, 1951, the sales of Weatherford, which are shown in the lower portion, were about \$2,700 that month, and

(Testimony of Roy Bowersock.)

then the sales of B and W is the small portion that is tacked on top of it.

The Court: In other words, you have taken the charts, [2685] Exhibits 175-A and 175-B, covering scratchers and centralizer sales by Weatherford to the Canadian Gulf, and Exhibits 175-D and 175-E for identification covering scratchers and centralizer sales of B and W to Canadian Gulf, and you have combined all four of those charts into this Exhibit 175-F, have you not?

The Witness: That is correct.

The Court: That is one superimposed on the other in effect, is that correct? Is that correct?

The Witness: Not quite. No, it isn't superimposed on the other, because, as I pointed out, for the month of August, 1951, you will note the Weatherford sales is the lower portion up above the \$2,500 mark.

The Court: You mean the B and W sales, do you not?

The Witness: No. That is Weatherford, Weatherford sales up past the \$2,500 mark, and then, as shown on Exhibit 175-D, the B and W sales were less than \$500, and that small 500 is an extension on top of the Weatherford sales, so that if you take the top mark of all of these points on Exhibit 175-F, it will represent the combined sales of both Weatherford and B and W sales.

The Court: Of both companies?

The Witness: That is correct.

(Testimony of Roy Bowersock.)

The Court: But where the column stands as indicating one of Weatherford or B and W alone, that represents the [2686] entire sales of that particular company?

The Witness: That is correct.

The Court: Where two columns are combined, you consider the length of each column separately as indicating the sales of that company?

The Witness: Yes. Or looking at it differently, to consider the combined total height of the column as being the total of the sales of the two companies.

The Court: So that the charts have not been superimposed, they have been combined practically?

The Witness: That is correct, your Honor.

* * *

The Court: No mention has been made of 175-G yet, has there? Exhibit 175-G is a combination of the charts dealing with centralizer sales, isn't that correct?

The Witness: That is correct.

The Court: And I was in error when I suggested to you that Exhibit 175-F deals with both centralizer and scratcher sales. It deals only with scratcher sales, is that correct?

The Witness: That is correct. I misunderstood you or I would have mentioned it.

Q. (By Mr. Scofield): So you have done the same thing with centralizer sales of Weatherford

(Testimony of Roy Bowersock.)

and B and W in Exhibit [2687] 175-G as you did with scratcher sales in Exhibit 175-F?

A. That is correct. [2688]

* * *

The Court: Very well. Since the admissibles cannot be separated from the inadmissibles, as the record now stands with respect to Exhibits 175-C to 175-G, inclusive, the objection is sustained. [2691]

* * *

Q. What schedules do you have before you now, Mr. Bowersock?

A. This is Exhibit 176-D, Union Producing Company sales of scratchers and centralizers made by B and W, Incorporated, covering the period from January 1, 1946, through December 31, 1953.

The Court: Is there any objection to the witness taking these exhibits up seriatim and testifying by reference to his testimony in respect to Exhibit 175?

Mr. Scofield: That would expedite it, your Honor.

The Court: Exhibit 175-C through -G, [2693] inclusive?

* * *

Q. Now, were these detail sheets of the Union Producing Company found in Exhibit 176-D prepared in the same fashion as you prepared the sheets of the Gulf Oil, Exhibit 175-C?

A. That is correct.

Q. Now, were the invoices and summary sheets

(Testimony of Roy Bowersock.)

attached to this Exhibit 176-D prepared in the same fashion as were the sheets, the combination and summary sheets, attached to Exhibit 175-D?

A. That is correct.

Q. Now, take the charts, if you will, the first chart, I believe, being Exhibit 176-E, and just briefly state what that chart shows.

A. It is the dollar value of scratcher sales made by [2695] B and W, Incorporated, to Union Producing Company, and for the period from January 1, 1946, to October 31, 1953, showing the value at the left-hand side, and the years and months at the bottom.

Q. Is that made up from the schedule, Exhibit 176-D? A. That is correct, from 176-D.

Q. Now, take Exhibits 176-F and 176-G and state briefly what those charts show.

A. Exhibit 176-F is the same thing with respect to centralizers, and Exhibit 176-G is a total of scratcher and centralizer sales by B and W to Union Producing.

Q. Now, take the two charts, Exhibits 176-H and 176-I, and indicate, if you will, what those two charts show.

A. Exhibit 176-H is a combination of Weatherford and B and W sales to Union Producing Company.

Q. Sales of what?

A. Sales of scratchers to Union Producing Company. They are combined in the same manner as the combined chart on Canadian Gulf. The key is

(Testimony of Roy Bowersock.)

the double lines, and then a space represents Weatherford scratcher sales, and the crossed lines represent B & W scratcher sales.

The Court: In other words, from March, 1952, through August, 1953, neither company sold the Union any scratchers or centralizers?

A. That is correct. [2696]

The Court: Or any scratchers?

The Witness: That is correct.

Q. (By Mr. Scofield): How about Exhibit 176-I?

A. It is the same thing with respect to centralizers, that is, it is the same thing as Exhibit 176-H, except it is for centralizers instead of scratchers.

The Court: And I want to be clear: Each of these charts is complete for the period indicated?

The Witness: That is correct.

The Court: That is, if it indicates, as does Exhibited 176-I, that there were no centralizer sales from January, 1946, up until February of 1947, by either company to Union——

The Witness: That is correct.

The Court: That is correct, is it?

The Witness: Yes, sir.

The Court: It indicates that during 1952 and most of 1953 there were no sales at all by either company?

The Witness: That is correct.

The Court: That is correct. [2697]

(Testimony of Roy Bowersock.)

Voir Dire Examination

By Mr. L. E. Lyon:

Q. In respect to these charts and the summary of the Exhibit 176 series, which have just been offered in evidence, and also with respect to the Exhibit 175 series which was previously offered, do the tabulation and summary and charting of the scratchers differentiate in any way between scratchers and the Nu-Coil or Multiflex or wall-cleaning guide types and including rotating type of scratchers as being sold by B and W? A. No, sir.

Q. Or do they include all scratchers?

A. They include all scratchers.

Q. Irrespective of whether they are Nu-Coil, Multiflex, wall-cleaning guides, or rotating-type scratchers? A. That is correct.

Q. Now, does the same thing apply with respect to the centralizer tabulations and sales with respect to each of the tabulations and summaries, do they include all types of centralizers sold by B and W, including the concave bow, straight centralizers and the spiral centralizers, when B and W was selling such centralizers?

A. That is correct. They include all centralizers.

Q. Now, there is no differentiation and no possible differentiation in the material that you have here, between [2698] the sales of the different centralizers or different scratchers, is there?

(Testimony of Roy Bowersock.)

A. That is correct.

Mr. L. E. Lyon: Your Honor, I object to all of these exhibits on the ground that they are absolutely of no probative value whatsoever. There certainly is no claim and can possibly be no claim of unfair competition because of the sale of rotating scratchers, of wall-cleaning guides, the case here being limited to a case of unfair competition with respect to Nu-Coil and Multiflex scratchers.

The Court: Wouldn't that objection go to the weight rather than to the admissibility of it?

Mr. L. E. Lyon: I think it goes not only to the weight but to the admissibility because there is no way of segregating.

Mr. Scofield: That, your Honor will recall, was the reason I asked Mr. Barkis what was the percentage of wall-cleaning guides that were sold by B and W over certain periods and what was the percentage of Multiflex scratchers and what was the percentage of Nu-Coil scratchers. Then I asked him to prepare a statement, that is, a memorandum, of what those percentages bore, that is, the percentages of these different scratchers, to the total business of B and W scratchers over this period of time. You refused to permit me to have that information, but you said at the time that I [2699] would be permitted to go to the books of B and W and determine what percentage each one of these different types of scratchers bore to the total sales of B and W scratchers. And that was the reason for that request.

(Testimony of Roy Bowersock.)

Mr. L. E. Lyon: As I recall your Honor's ruling, your Honor ruled that they had the books at that time and that they should make that determination at that time.

Mr. Scofield: No. That isn't the fact.

Mr. L. E. Lyon: And had the books open to them, and not to come in here and ask for some later examination of the books which I understand they are now doing.

The Court: Wasn't this information available when the examination was made; in other words, when the examination was made of these various invoices, wasn't it possible to determine what types of devices were covered?

Mr. L. E. Lyon: Every invoice shows the type of device.

Mr. Scofield: I do not recall whether the ruling was made prior to the time that we looked into the books here at Long Beach.

The Court: The objection will be overruled.

Mr. Scofield: Yes.

The Court: I deem that objection to go to the weight of it. It may go very seriously to the weight of the evidence, but not to its admissibility.

Mr. Scofield: Well, Mr. Ekey says that we were denied [2700] that information at Long Beach.

Mr. L. E. Lyon: No, you weren't. You were given all the invoices.

The Court: I am not ruling that it destroys the probative value entirely. It may not. But whatever defect there is in failing to differentiate between

(Testimony of Roy Bowersock.)

type and model of device goes to the weight of the evidence. How seriously it affects the weight, I don't indicate at this time.

Exhibits 176-D to 176-I, inclusive, are received in evidence. [2701]

* * *

The Court: You are referring now, I take it——

Mr. Scofield: To the 177 series, your Honor.

The Court: That is the Gulf Oil Company, Exhibits 177-C to -E, inclusive?

Mr. Scofield: Yes, sir; it is the Gulf Oil Company. And the witness, I believe, has before him the Exhibits 177-C, 177-D, and 177-E, have you not?

The Witness: Yes, sir.

Q. Now, state, if you will, how the 177-C was prepared; and if you care to, you can refer to the preparation of this exhibit with the exhibits that you have testified to previously?

A. Exhibit 177-C, which represents the sales of scratchers and centralizers made by B & W, Inc., to Gulf Oil Corporation and its subsidiaries for the period January 1, 1946, through October 31, 1953, was prepared in exactly the same fashion as the other schedules for Canadian Gulf and Union Producing Company; and the first three pages of this Exhibit 177-C represent summary sheets, S-1, S-2, and S-3, and then there are monthly combination sheets, MC-1, MC-2, and MC3, which are, again, simply combining figures found on other sheets, and particularly to the respect to the additional sales picked up in Houston, or from pages 24, 25, 26, 27,

(Testimony of Roy Bowersock.)

28 of the detailed sheets, the detailed sheets being Nos. 1 through 28. [2702]

Q. I would like to ask you, first, whether the monthly combination sheets and the summary sheets are included in Exhibit 177-C? Are they a part of Exhibit 177-C?

The Witness: Would you repeat that? I didn't quite——

Q. Are the summary and monthly combination sheets—do they form a part of 177-C?

A. Oh, yes.

Q. Now, tell me what the charts 177-D and 177-E are.

A. 177-D represents my summarization of the scratcher sales in chart form, the scratcher sales shown on Exhibit 177-C. Again, it was prepared in the same fashion as the other charts; the dollar volume is at the left, the years and months at the bottom, and it covers the period from January 1, 1946, through October 31, 1953.

Q. And 177-E.

A. Exhibit 177-E is the same thing with respect to centralizer sales made by B & W to Gulf Oil Corporation and its United States subsidiaries.

Q. Were these three exhibits of the 177 series, -C, -D, and -E, prepared in the same fashion, partially here at Long Beach and completed at Houston, as were the preceding exhibits about which you have testified? A. That is correct.

Mr. Scofield: I offer Exhibits 177-C, 177-D, and 177-E in evidence. [2703]

(Testimony of Roy Bowersock.)

Mr. L. E. Lyon: I presume it may be stipulated that this tabulation shows no segregation of the type and character of the devices sold, either scratchers or centralizers, as were true of the previous series, the 176 series, as testified by this witness?

Mr. Scofield: That is right; there is no segregation.

Mr. L. E. Lyon: Upon that ground and upon the ground that the matter of the sales of centralizers has been fully dealt with and is a matter of *res judicata* between the parties, I will object to these offers, both of which rulings I understand the court has previously made.

The Court: Overruled. Exhibits 177-C, -D, and -E for identification are now received in evidence.

(The documents referred to, and marked Exhibits 177-C, -D, and -E, were received in evidence.)

Mr. L. E. Lyon: I presume that there are two or three or four other series here. May the record show, without repeating it, that the same objection is made to all the pursuant testimony with respect to these other summaries and accountings that has been heretofore just expressed, without the necessity of repeating it?

The Court: I take it you refer to the testimony being the same with respect to the Exhibit 178 series, 179, 180, and 181?

(Testimony of Roy Bowersock.)

Mr. L. E. Lyon: That is right, your [2704]
Honor.

The Court: So stipulated?

Mr. Scofield: Yes, sir; I will so stipulate.

The Court: So ordered.

You are now turning to Exhibits 178-E, -D, and
-E, dealing with B & W sales to California Com-
pany, is that correct?

Mr. Scofield: Yes, sir.

Q. You have before you, Mr. Bowersock, Ex-
hibits 178-C, 178-D, and 178-E? A. Yes, sir.

Q. Will you state if these exhibits were prepared
in the same fashion as were the exhibits of the
preceding companies?

A. They were so prepared in the same fashion.

Q. Did you find in the Houston records much
information to supplement the Long Beach records
with respect to this particular company, the Cali-
fornia Company?

Mr. L. E. Lyon: It has been pointed out to me,
your Honor, that the charts in this case are all
from the California records here and that the charts
that they have produced and the charts that we have
produced, one may be laid on top of the other, with
one possible exception, and that is with respect to
Exhibit 178-E, which has an addition which we do
not have of centralizer sales in the month of Feb-
ruary. The scratcher sales do but the centralizer
sales do not. [2705]

Mr. Scofield: I have not had an opportunity to
check.

(Testimony of Roy Bowersock.)

Q. What are the charts, 178-D and 178-E? What do they show?

A. 178-D is a chart of the scratcher sales made by B & W to the California company for the period January 1, 1946, through October 31, 1953; and Exhibit 178-E reflects the centralizer sales made by B & W, Inc., to California company for the same period.

* * *

Q. (By Mr. Scofield): I have furnished you, Mr. Bowersock, with Exhibits 179-B, 179-C, and 179-D, evidently made up from records of sales by B & W to the Texas Company. State, if you will, how these schedules were prepared, how the charts were made, and what the charts stand for. And if you care to, you can refer to previous charts, similar charts of companies about which you have previously testified.

A. These schedules and charts were prepared in exactly the same fashion as the ones for the companies with respect to which we have previously testified, Exhibit 179-B being a [2706] detailed sales of scratchers and centralizers and 179-C—excuse me—just scratchers. 179-B is an analysis of scratcher sales only. In the case of the Texas Company we only analyzed scratchers.

And Exhibit 179-C is a chart reflecting the B & W scratcher sales to the Texas Company for the period January 1, 1946, through October 31, 1953, the dollar volume on the left and the years and months at the bottom.

(Testimony of Roy Bowersock.)

And Exhibit 179-D is a combined total Weatherford and B & W scratcher sales to the Texas Company for the same period, prepared in the same manner in which the combined charts previously testified to were prepared. [2707]

* * *

Q. You have before you the schedules and charts that were made up of the Standard of California which have been marked for identification Exhibits 180-B and 180-C, have [2708] you not, Mr. Bowersock? A. That is correct.

Q. Will you state how those exhibits were prepared?

A. They were prepared in the same fashion as the prior schedules and charts, Exhibit 180-B being the schedule of sales of scratchers and centralizers made by B & W, Inc., to the Standard Oil Company of California for the period January 1, 1946, through October 31, 1953; and Exhibit 180-C being a chart reflecting the monthly summary of the total sales, in this case, both scratchers and centralizers made by B & W, Inc., to the Standard Oil Company of California, with dollar volume indicated on the left and the years and months at the bottom.

* * *

Q. (By Mr. Scofield): Finally, I put before you the schedule of sales of B & W made to the Amerada Petroleum Company which has been marked for identification as Exhibit [2709] 181-A. State, if you will, how that schedule was prepared

(Testimony of Roy Bowersock.)

and if it was prepared in the same fashion and from the same source of information as were the preceding?

A. It was. It was prepared in exactly the same fashion as the preceding schedules and reflects the sales of scratchers and centralizers made by B & W, Inc., to the Amerada Petroleum Company for the period January 1, 1946, through October 31, 1953, but it includes only the California sales and not the sales for the entire country.

Q. Do you recall whether the Exhibit 181 which was made of Weatherford sales included only the California sales of Amerada?

A. It included only the California sales to the Amerada Corporation; that is correct. [2710]

* * *

Recross-Examination

By Mr. L. E. Lyon:

Q. Your examination of the records of the B & W with respect to sales to the California company, I believe, shows—that is by your charts Exhibits 178-E and 178-D—that there were no sales made by B & W to the California company prior to March of 1948, is that correct?

A. Well, I would have to see the papers, the exhibits.

Q. You have them in front of you. Don't you have them? A. No, sir.

(Testimony of Roy Bowersock.)

Mr. L. E. Lyon: I will place my copies of those charts in front of you. [2712]

The Witness: May I have the question repeated, please?

Mr. L. E. Lyon: Will you read the question, Mr. Reporter, please?

(Pending question read.)

A. No. You say that there were no sales made prior to March, 1948. I believe you meant March, 1949, however.

Q. (By Mr. L. E. Lyon): What is that?

A. I believe you meant March of 1949.

Q. There were no sales?

A. There were no sales prior to March, 1949.

Q. No. Then, as to this chart, that "March" is as of 1949, that is, on both of these charts, is that correct? A. That is correct.

Q. Where the sales were made. There was no sales activity that you found of the B and W at any time showing any sales made of centralizers or scratchers to the California Company in May, June, July, August, September, or October, 1947, is that correct? A. That is correct.

Q. Did you find any sales made by B and W to the California Company on or about February 15, 1950, or within six months of February 15, 1950, of scratchers or centralizers? A. No, sir.

Q. In your charting of the sales by B and W of equipment [2713] to the Canadian Gulf—and I will place before you your charts, Exhibits 175-E and

(Testimony of Roy Bowersock.)

175-F; if you need the others, just advise me—it is true, is it not, that there were no sales made by B and W to the Canadian Gulf prior to July 23rd or 24th, 1951?

Mr. Scofield: By whom?

Mr. L. E. Lyon: By B and W or anybody on its behalf, of either centralizers or scratchers.

A. I will testify in this regard, that there were no sales made by Import Tool Company to Canadian Gulf, Ltd., prior to that time.

I will further testify that there were a few sales made by B and W, Incorporated, to supply stores in Canada prior to the date of Import Tool's commencing to sell in Canada, that there were some sales made through some supply stores in Canada that we did not have the ultimate disposition of, whether or not they went to Canadian Gulf I don't know, but there were no sales made by Import Tool Company, according to the records, prior to the date you mentioned.

Q. (By Mr. L. E. Lyon): Were there any sales made from July 23, 1951, to and including June of 1953, of scratchers to any of the Canadian Gulf by Weatherford or any of Weatherford's associated companies as shown by these charts which you have here presented, for example, Exhibit 175-F?

A. May I have the question over again? [2714]

Mr. L. E. Lyon: Read the question, please, Mr. Reporter.

(Pending question read.)

(Testimony of Roy Bowersock.)

The Witness: Well, may I have the detailed sheets prior to these charts, or may I have a couple more charts?

This, the chart with respect to centralizers here——

Q. (By Mr. L. E. Lyon): I said "scratchers." The question was limited to scratchers.

A. Excuse me. May I have those dates stipulated in the question again?

Q. July 23, 1951, to June of 1953.

A. To June. Well, from my chart in front of me, I don't know what date it cut off, it doesn't reflect, but it reflects some sales for the month of August, 1951, and it reflects sales in June of 1953, made by Weatherford, but as to the exact day of the month, I would have to have the detail sheet to say what the cutoff was, but between that period of sales made by Import Tool there were no sales made by Weatherford.

Q. In June, 1953, there was a volume sale made to the Gulf companies by Weatherford, Ltd., of Canada, wasn't there? A. I don't know.

Q. That is what your chart shows, doesn't it?

A. There was a sale—there were sales made in the month of June, that is correct, of 1953. [2715]

Q. And those were the sales the records of which have heretofore been produced, and you testified as to them before, upon which a provisional discount was given, isn't that correct?

A. No, I did not testify—I believe that it was

(Testimony of Roy Bowersock.)

Mr. Drury that testified as to the Canadian sales, before.

Q. You heard Mr. Drury's testimony?

A. Yes, sir.

Q. And that was the provisional discount sale that started in June of 1953, was it not?

A. I haven't the remotest idea.

Q. From what records did you compile Weatherford's sales beginning in June of 1953?

A. We simply compiled this chart——

Q. I said from what records did you compute Weatherford, Ltd., sales for June of 1953. I did not ask you about the charts.

A. I didn't compute them. Mr. Drury computed them.

Q. I see. Then, all the material which you have on Exhibit 175-F with respect to Weatherford sales beginning in June of 1953, is entirely hearsay as far as you are concerned, is that correct?

Mr. Scofield: I object to that, your Honor. That is already in evidence in the other chart.

The Court: Sustained. [2716]

* * *

By Mr. L. E. Lyon:

I would like to have placed before the witness Exhibits 178-E and -D.

The Court: Does the clerk have them?

Mr. L. E. Lyon: They are the charts of this morning.

The Court: 178-D and -E?

(Testimony of Roy Bowersock.)

Mr. L. E. Lyon: Yes, your Honor. I have them.

The Court: The California Company.

Mr. L. E. Lyon: Yes, sir.

Q. You have testified that during May of 1947, these charts show that B & W was selling nothing to the California Company, is that correct?

A. That is correct.

Q. I would like to have you mark on these charts, just so it will show the date of May 21, 1947, the date of Plaintiff's Exhibit 44. Will you just mark where it would appear on that chart?

The Witness: May I have that question read?

Mr. L. E. Lyon: Just mark on there at the point where the chart shows "May 21, 1947," the notation: "Plaintiff's [2718] Exhibit 44—Barkis' letter to Toussaint." I think maybe you had better have an ink pencil or an ink fountain pen so somebody can read it.

The Witness: I have one, Mr. Lyon.

Mr. L. E. Lyon: You have one.

(Witness marking.)

Q. Then I would like to have you mark there at the date of June 13, 1947, where the date would appear, the notation: "Plaintiff's Exhibit 21—Weatherford Spring Company's letter of indemnification to Standard Oil Company of California."

(Witness marking.)

Mr. L. E. Lyon: I would like to have Exhibit 91,

(Testimony of Roy Bowersock.)

if the clerk please. I do not seem to have a copy of it. That is a letter from Barkis to the California Company at New Orleans, dated September 22, 1947.

The Clerk: 91?

Mr. Scofield: 91 is a deposition.

Mr. L. E. Lyon: It is in there.

Q. Will you mark on there the date of September 22, 1947, "Barkis and Styles"—

The Witness: Just a moment. May I have that date again?

Q. September 22, 1947. A. Right.

Q. "Barkis and Styles conference with Goerner at [2719] New Orleans, Exhibit 91."

(Witness marking.)

Mr. L. E. Lyon: Now, may I have Exhibit 100, please? It is a letter of February 15, 1950, from Mr. Scofield to Mr. Walshe.

Q. And while we are getting that letter, will you mark on there at the date of February 15, 1950, a notation: "Exhibit 100—letter of Scofield to Walshe of February 15, 1950"?

(Witness marking.)

The Clerk: This is supposed to carry 93 to 106. It seems the last one was 99.

Q. (By Mr. L. E. Lyon): While we are looking for that, will you state, as shown by the chart Exhibit 178-E, the total volume of centralizer business that that chart shows that B & W did with the Cali-

(Testimony of Roy Bowersock.)

fornia Company from the beginning of that chart to and including February 15, 1950.

A. Approximately \$450.

Q. How long was it after February 15, 1950, before B & W did any more centralizer business with the California Company?

A. A little over a year. It was April, 1951.

Q. What was the total business that B & W did with the California Company in centralizers in the year 1951? A. A little over \$1,500.

Q. Looking at the chart, Exhibit 178-D, will you give [2720] me the total volume of business that B & W did in scratchers with the California Company from the beginning of the chart in January, 1946, to and including February 15 of 1950?

A. Approximately \$500.

Q. And from after February 15, 1950, to and including the month of September, 1952, what was the total volume of scratcher business done by B & W with the California Company?

* * *

A. February 15, 1950, through September of 1952, approximately \$200. [2721]

Q. In your consideration of the accounts for the Weatherford companies, do you consider the questions of possible liability of the company or companies under warranties with respect to their sale of equipment?

The Witness: What was the question?

(Testimony of Roy Bowersock.)

Mr. L. E. Lyon: Will you read the question, please?

(Pending question read.)

Q. (By Mr. L. E. Lyon): With respect to their warranties on sale of equipment.

A. Are you speaking of the time when I was in public accounting?

Q. I am speaking of all the times that you had anything to do with the accounts of any of the plaintiff corporations or individuals.

A. We have. We considered the question of liability, in public accounting, as much as it was possible to determine, and as a public accountant it appears the only thing that can be done in such matters is to comment on it in an audit report.

Q. You know, do you not, that practically all equipment sold to the oil companies is sold on written orders which specify on their face that the seller assumes all liability for any loss by the purchaser because of patent claims or patent infringement?

A. No, I don't believe I know that. [2722]

Q. You have never seen any of the purchase orders of the companies to whom Weatherford or any of the plaintiff organizations or individuals sell? A. I have seen some of them.

Q. And the companies that have carried these accounts sell through the National Supply Company as a supply store do they not? A. Yes, sir.

Q. I place before you one of the purchase orders of the National Supply Company and ask you to

(Testimony of Roy Bowersock.)

read into the record the statement beginning here where I place my finger on the face of that order.

A. (Reading): "It is agreed that the material ordered shall comply with all Federal laws relative thereto and that you will defend and save harmless this company from loss, cost, or damage by reason of actual or alleged infringement of letters patent concerning same."

Q. Hasn't that notice been observed by you on all purchase orders that your companies have received from the National Supply Company?

A. Well, you understand that I do not have anything to do with Weatherford Oil Tool Company and that I wouldn't know anything about this.

Q. You never saw, on any purchase order to the Weatherford Spring Company, then, the notice from the [2723] National Supply Company that you have just read into the record?

A. I may have.

Q. Well, did you or didn't you?

A. I don't remember.

Q. But your statement is that you never considered that at all in any of the accountings as a matter of possible liability of the Weatherford Spring Company, is that correct?

A. That is not. That is not correct.

Q. Well, if you can't remember whether you saw it or not, how can you remember whether you took it into account? That is my point.

Mr. Scofield: I object as argumentative, your Honor.

(Testimony of Roy Bowersock.)

The Court: He is an expert witness. It is argumentative in form, but he may answer.

A. My point is, in the first place, while I was in public accounting I made an audit or audits of Weatherford Oil Tool Company. I am no longer in public accounting. I have nothing to do with Weatherford Oil Tool Company. I wouldn't have anything to do with the setting of the policies even at that time. I am now employed by Mr. Hall, and at the time I was in public accounting I did not make the statement that we did not take such things into consideration.

I did say that we commented on patent structures and so forth in the audit report. [2724]

Q. (By Mr. L. E. Lyon): Did you in your accounting?

A. We cannot determine. As public accountants, we cannot determine what possible liability anybody will have from such a thing as that, on a purchase order, Mr. Lyon, because almost all companies have some sort of contingencies that they are faced with, and the only thing that can be done is to cover such things in a reasonable fashion by explaining in the audit report everything you know that exists.

Q. I place before you Exhibit No. 21. Is there any greater liability stated or did you give any greater consideration to any possible liability as stated by Exhibit No. 21, than is stated by the notice which appears upon the purchase orders of the Standard Oil Company of California, one of which

(Testimony of Roy Bowersock.)

I place before you, and I will ask you to read the patent-liability clause included in the purchase order of the Standard Oil Company of California, which I have placed before you and which starts with the word "Vendor," just read it into the record.

A. (Reading): "Vendor by accepting this order agrees to hold purchaser and its subsidiaries (hereinafter referred to collectively as 'Company') free and harmless from any and all loss, damages, or injury, to defend at its own expense any and all suits or actions, and to pay any judgments against Company, arising out of alleged infringements of patent rights by the whole or any portion of the goods [2725] hereinbelow described."

Q. Now, the question was, did you account for the same liability because of the purchase orders in the Weatherford Spring Company's books as you did for the letter of warranty, Exhibit 21, which I have placed before you?

A. In the purchase order it specifies that any goods sold under that order, the "Company"—in this case it is Standard Oil Company of California—is to be held harmless in connection with patents.

And this indemnity letter is an indemnity letter that somebody presumably—well, the Weatherford Spring Company agrees to hold the Standard Oil Company of California—it is addressed to "Mr. E. J. Toussaint, Producing Department, Standard Oil Company"—and with this letter the Weatherford Spring Company agrees to intervene and prose-

(Testimony of Roy Bowersock.)

cute any infringement suit brought by B and W, Incorporated, against Standard Oil of California or its subsidiaries.

It sounds to me like it is much the same thing.

Q. Well, now, the question was, did you when you were auditing the books of the Weatherford Spring Company—and I believe you did so audit them, did you not?

A. Not the Weatherford Spring Company, no.

Q. Or the books of Mr. Hall?

A. We did audit the books of Weatherford Oil Tool Company. [2726]

Q. How about the books of Mr. Hall?

A. Not as an audit.

Q. And you reviewed them completely?

A. That is right.

Q. (Continuing): Did you find in the books of Mr. Hall and of Weatherford Oil Tool Company, or in either of them, any reserve set up for contingent liability because of the warranties of the character of Plaintiff's Exhibit No. 21 to the Standard Oil Company or to take care of the contingent liability set forth in the purchase orders of the Standard Oil Company as you have just read?

A. No, sir.

Q. All right. Now I will ask you the same question with respect to the California Company, did you find any contingent liability set up on the books of Mr. Hall or the Weatherford Oil Tool Company with respect to any contingent liability growing out of any warranty given to that company, or any lia-

(Testimony of Roy Bowersock.)

bility growing out of the purchase orders which set forth the warranty which you have read into the record with respect to that company?

A. No, sir.

Q. All right. Now I will ask you to read into the record from the rear of the purchase order of the Shell Oil Company the warranty which begins on the reverse of the order and is entitled "(1) Patent Infringement," and read that into the record. [2727]

A. "(1) Patent infringement:

"Contractor agrees to save and indemnify Shell from and against any and all loss, expense, liability and claims of liability arising by reason of the manufacture, sale and/or use of the material or equipment covered hereby, or any process, material or equipment used in the performance of the contract being or being claimed to be an infringement of patent rights held by others."

Q. All right. Now, is your answer the same with respect to any possible liability under this warranty or any letter of indemnification given to the Shell Company, if any, that there was no contingent liability set up on the books of either Mr. Hall or the Weatherford Oil Tool Company?

A. That is right, sir.

Mr. L. E. Lyon: May I request of defendants' (plaintiff's) counsel a stipulation, to avoid going through each one of these companies this same way, that all companies with which these parties dealt, and their purchase orders have now and did

(Testimony of Roy Bowersock.)

throughout the period of time, the precise same notice that has been read from these three different purchase orders, and that that has been true at all times?

Mr. Scofield: I am frank to say I don't know whether they have. I have seen one or [2728] two——

The Court: The question is: Are you willing to stipulate for the purpose of this case?

Mr. Scofield: No, sir, I am not. No, sir. I don't know. I haven't enough information.

Mr. L. E. Lyon: All right.

Q. I will place before you certain purchase orders and documents from the books of B & W, Inc., which I believe were shown to you and you inspected during your review of B & W's books, which are the purchase orders of the Gulf company and deal with the Goldsmith, et al., lease, wells Nos. 596-56 and 598-56, and which have heretofore been marked by me but not by the clerk of the court here as Exhibits FH-1, FH-2, FH-3, and FI-1, FI-2, and FI-3, respectively, there being placed before you the original of those documents as well as the photostatic copy in each case. And I will ask you to look at the reverse side of those purchase orders and read item 10 of the conditions of sale as found on the back of those purchase orders so that it may be transcribed in the record.

A. "Item 10:

"The seller agrees to defend at its expense any

(Testimony of Roy Bowersock.)

and all suits founded on a claim that the goods sold under the order infringe any patent, and the seller agrees to indemnify the purchaser under this order against any judgments and costs resulting [2729] from any such suit."

Q. Assuming that plaintiffs or any of them gave to the Gulf or the Gulf subsidiaries the letter of indemnification, did you find in any of the books that you have audited or reviewed of the plaintiff's or any of them any reserve set up for contingent liability because of the conditions as stated on the purchase order that you read just now into the record or from any such letter of indemnification?

A. No, there was no such contingency reserve set up on the books of either Weatherford Oil Tool Company or Weatherford Spring Company.

Q. When you were examining the books of B & W a question came up with respect to the Goldsmith wells Nos. 596 and 598 of the Goldsmith lease of the Gulf Company. At that time did you examine these documents, FH-1, FH-2, FH-3, and FI-1, FI-2, and FI-3 for identification?

Mr. Scofield: Were they from the Long Beach or the Houston office?

A. Presumably I did examine these. This looks like a copy of B & W's invoice here to Gulf Oil Corporation, dated September 26, 1950; and presumably I did have this invoice in making the analysis. I don't know whether those are some of the invoices that were used in this court testimony or not, but I recall that Mr. Barkis had some in-

(Testimony of Roy Bowersock.)

voices out and it is my understanding that we got them back and we got [2730] them down in the analysis.

Q. (By Mr. L. E. Lyon): This invoice which you have referred to and the one that you had before you is marked FH-3 up in the right-hand corner, is it not? A. That is correct.

Q. And that invoice says: "4 B & W latch-on centralizers—7-inch spiral bow (@ \$32.00) total \$128.00," does it not? A. Correct.

Q. And that identifies not only the fact that a centralizer was sold on that invoice but the type of centralizer, does it not? A. That is correct.

Q. In the next line it says—the invoice calls for "18 B & W Nu-Coil scratchers for 7-inch A.P.I. casing at \$6.45, a total of \$112.50." And that line identifies the fact that there were scratchers sold, does it not, to the Gulf Company on that invoice?

A. Yes, sir; that there was scratchers.

Q. And it identifies the fact that the scratchers that were sold were Nu-Coil scratchers, does it not?

A. That is correct.

Q. And is not this invoice, Exhibit FH-3 for identification, typical of all of the invoices which you examined of B & W in that they identify the precise structure as to the type of scratcher and the type of centralizer in each [2731] and every case?

A. I would hate to go out on a limb and say it identifies it exactly. For example, on this B & W

(Testimony of Roy Bowersock.)

latch-on centralizer I don't know whether it is a spiral or a straight centralizer.

Q. You don't?

A. Oh, yes. It says "spiral bow." That is right. And in most cases I recall that they identify the scratchers and centralizers. We were not particularly interested in the particular type of centralizer or scratcher.

Q. Would you say or can you recall any invoice that you examined of the B & W which did not specify the type of centralizer as to spiral, straight, or concave bow, or the type of scratcher as to whether it was a Nu-Coil, Multiflex, rotary scratcher, or a wall-cleaning guide?

A. I don't recall. I don't recall any at this time, Mr. Lyon, but I would hate to say that there absolutely was not any because I really was not looking for it.

Q. All right.

A. If it had been marked just "centralizers" or "scratchers," why, we probably would have picked it up without too much notice. I would say if there had been very much of one thing or another, we would probably have seen it.

Q. As to FH-2, Mr. Bowersock, the document marked up in the right-hand corner "FH-2 for identification," that [2732] is what you have referred to on your direct examination as a delivery ticket, is it not?

A. Yes, sir.

Q. And that delivery ticket is signed for on behalf of the Gulf Company by whom?

(Testimony of Roy Bowersock.)

A. It appears to be "C. F. Fisher," or maybe it is C. H. Fisher.

Q. And it is signed for on behalf of the person who delivered it by whom?

A. By A. G. Flowers.

Q. A. J.? A. A. J. Flowers.

Q. It may be "G"—I don't know. All right. Now, that delivery ticket identifies the structures which were delivered to the Gulf Company at the Goldsmith lease at that time as what? 4 7-inch B & W spiral bow latch-on centralizers; 18 7-inch B & W Nu-Coil scratchers. [2733]

* * *

Q. (By Mr. L. E. Lyon): Would you read from the face of Exhibit FH-2 for identification, Mr. Bowersock, the designation of the well to which that equipment was delivered?

A. It says: "Field delivery receipt to well No.," and the name is "Goldsmith No. 596-56, district West Texas."

Q. What is the date of that invoice?

A. This delivery receipt is "8-31-50."

Q. That is on FH-2, is it not? Talking from FH-1, what is FH-1?

A. FH-1 is the purchase order of Gulf Oil Corporation, Ft. Worth Production Division.

Q. And where does it call for the material to be [2734] delivered and by what method?

A. Calls for "4 7-inch B & W spiral bow latch-on centralizers and 18 7-inch B & W Nu-Coil

(Testimony of Roy Bowersock.)

scratchers. Ship to Gulf Oil Corporation, Ft. Worth Production Division, destination Goldsmith, Texas, care of D. Moore, Vendor's care." And at the bottom it says: "Confirming 8-31-50. Charge 28-3996-058-700024 C. A. Goldsmith, et al., No. 596-56 (install centralizers and scratchers)."

Q. Do you understand what it means on the end there: "install centralizers and scratchers"? Is that a direction to the vendor to install the structure on the casing?

A. Presumably it is. It would mean that B & W was to install them. [2735]

* * *

Q. From what data was this chart, Exhibit 175-D, prepared, Mr. Bowersock?

A. It was prepared from copies of Import Tool Company's invoices and delivery tickets.

Q. And what else?

A. Do you mean by way of purchase orders and that sort of thing? They would not have any bearing on it. It was prepared from copies of invoices of the Import Tool Company.

Q. And the invoices of the Import Tool Company were supplemented by delivery tickets, were they?

A. Yes, sir.

Q. And those delivery tickets, in many cases, were supplemented by purchase orders from the Gulf Oil Company, were they not?

A. Undoubtedly, yes, sir.

Q. And that is the material that this material of Exhibit 175-D was compiled from, is it not?

(Testimony of Roy Bowersock.)

A. Yes, sir.

Q. And in many cases the material that is on here, and [2744] the designation of the fact that it was a Gulf purchase, came by letter from some representative of Weatherford, Ltd., in Canada, is that correct?

A. With respect to certain wells that were indicated by the well number only, that information that those were actually Canadian Gulf was gotten by letter to Fred Drury, who previously testified in this court, from Canada, and that letter is in the exhibits, the detail, and I don't know what the exhibit number is but I believe it is 175-C and it is listed as page 9 of that detail.

Q. Did you personally see any of the records to which Mr. Drury refers in his letter, Exhibit 175-C for identification?

A. Say that over again.

Q. Did you personally ever see any of the records which Mr. Drury refers to in his letter, Exhibit 175-C, and by which he says that he identifies the wells as being Gulf wells?

A. No, I did not.

Q. No such records, to your knowledge, were ever available here in the United States, then, is that correct?

A. No, I have no way of knowing whether there is any available any place or not. At least all I did was write to Mr. Drury and ask him to ascertain whether or not those were Gulf wells, and he reported in the letter that I have enclosed [2745] and he indicated the ones that were Canadian Gulf.

(Testimony of Roy Bowersock.)

We crossed out all the others that were not Canadian Gulf.

Q. On this chart on which you have scratcher sales, Exhibit 175-D—will you place at the proper point on that chart the date “March 13, 1951,” and following that will you write “Canadian Reissue Patent No. 472,221,” make those entries on your chart?

A. May I have that, what I was to write, repeated?

Q. “March 13, 1951.” A. Yes.

Q. Write that date, “March 13, 1951,” and write “Canadian Reissue Patent No. 472,221.”

Mr. Scofield: Would you supplement the exhibit number, too, Mr. Lyon?

Mr. Lyon: What is the exhibit number of that?

Mr. Scofield: It is Q-1.

Mr. L. E. Lyon: Q-1. All right. I will be glad to have him put “Q-1” on there also.

(Witness writes on chart.)

Q. (By Mr. L. E. Lyon): Now, at approximately that same date will you mark on there “Gulf Patent Department examines Canadian reissue patent”?

(Witness writes on chart.)

Q. And put after that “Houghton deposition, Exhibit 92, page 11.” [2746]

A. What was the page number again, please?

Q. Exhibit 92, page 11.

(Testimony of Roy Bowersock.)

A. Oh, Exhibit 92.

(Witness writes on chart.)

Q. Now will you mark out there the date, "April 3, 1951," and write "Letter to Houghton with claims of reissue patent, Exhibit 73"?

(Witness writes on chart.)

Q. Now, following that, or about the date of May, 1951, will you write "Houghton letter, Exhibit 76. Houghton deposition, Wright and Barkis have not asserted Canadian patent but could do so, Exhibit 92, pages 23, 24"?

* * *

Q. (By Mr. L. E. Lyon): What have you written?

A. I wrote "Houghton letter, Exhibit 76, Houghton deposition, Wright"—

Q. Just put "Houghton deposition, Exhibit 92, pages 23, 24," then, and leave the interpretation out. [2747]

* * *

Q. Does your examination of the books show that as to particular oil companies there will be a wide fluctuation as to dollar value of sales from month to month?

Mr. Scofield: I object to that unless the oil companies are identified.

Q. (By Mr. L. E. Lyon, continued): The oil companies on which you have prepared the charts.

A. If you place before me all of these charts

(Testimony of Roy Bowersock.)

of all the companies here, I will tell you what the fluctuations are between each one. I have in front of me this B and W, Incorporated, sales to Gulf and, for example, it fluctuates in the month of February, 1948, from something above \$500 down to nothing, for three or four months.

And then coming into July of 1948 there are sales and [2768] then there is nothing, and the next couple of months with sales of over \$1,500, and it fluctuates down to less than \$500 for about three months.

Now, I would call that considerable fluctuation. However, a similar amount of fluctuation in dollar value on a company that had lesser sales would not—I mean that had greater total sales, would not be so important. This is proportionately. From one month to the next it may fluctuate quite considerably, some of these months even on this particular scratcher chart of B and W sales to Gulf Oil Corporation, in the month of March, 1951, there were no sales, and yet in the two months adjacent to it there were sizable sales, I would say, above \$1,500 in one month and \$2,500 in the next month.

Upon the over-all charts you can see a general pattern as to the trend of the sales.

Q. Now, did your examination of the books of these companies show any reasons for these wide fluctuations?

A. No, sir. My examination was just confined to getting the facts with respect to the sales and not as to why they did occur.

(Testimony of Roy Bowersock.)

Q. Did your examination of the books of these different companies show that the purchases were made for warehouse stocking in any case, for stocking the equipment in warehouses? [2769]

A. You mean did the examination show that Gulf Oil group bought some equipment to stock their warehouses?

Q. Yes.

A. No. We had no such information.

Q. You had no such information?

A. No, sir.

Q. Did your examination of the books of Gulf Oil Company show you with respect to purchase of scratchers from Weatherford Spring Company that Gulf had in fact over-purchased for a considerable period of time on scratchers, beyond their requirements?

A. No, I would not have known that. [2770]

* * *

Mr. L. E. Lyon: I think the books in a case of this kind, account books, are those made before the original records, such as invoices and delivery tickets, which they have had by their own admission, your Honor, and that is what I mean by "books."

The Court: You are asking, in effect, if any books he saw in the course of his examination indicated to him any reason or indicated to him any over-purchases?

Mr. L. E. Lyon: Yes, for particular periods of time.

(Testimony of Roy Bowersock.)

The Court: By "over-purchasing," I take it you mean purchasing beyond normal?

Mr. L. E. Lyon: Beyond their immediate requirements.

The Court: Or normal requirements. You may answer.

A. We were not interested in what disposition was made of the goods. We would not know whether they over-bought or not. There may have been some—we did have credit memorandums coming through.

The Court: The question is whether you saw anything that indicated to you that there had been any such over-purchasing or unusual purchasing—purchasing beyond normal requirements at any time over the period of your examination. Is that the question?

Mr. L. E. Lyon: Yes, your Honor.

Mr. Scofield: By their question——

A. No, we would not have known. [2772]

The Court: Your answer is "no"?

The Witness: That is right. We have no indication.

Q. (By Mr. L. E. Lyon): You stated that you saw credit memorandums. Were those credit memorandums which were issued and requested for return merchandise? A. Some of them.

Q. Why was the merchandise returned?

A. Well——

Q. Do you know? Did the records show?

A. No. I wouldn't have been interested in it,

(Testimony of Roy Bowersock.)

anyway. We were just interested in getting the correct amount of sales. We took the credit memorandums into account, and that is simply the total interest that we had in the credit memorandums. We neither had the time nor did we want to go into all the reasons as to why merchandise was returned.

Q. How long have you been engaged in examining the books of the Weatherford interests and Mr. Hall's in connection with this matter, Mr. Bowersock?

A. In connection—may I have an explanation of your question, in connection with what matter?

Q. When did you first look at the books of any party to this action for any reason with respect to the sale of scratchers and centralizers?

A. I am still not too sure that I understand your question. I will state what I think your question to be and [2773] reply to that. If I understand your question as to when I first came in contact with either Mr. Hall, Weatherford Spring or Weatherford Oil Tool, my first contact was in 1951, in May, when we came in for preliminary examination preparatory to the audit of June 30 of Weatherford Oil Tool Company. That, however—

Q. June 30th of what year? A. 1951.

Q. 1951. How long were you engaged in making that audit of those books of the Weatherford Oil Tool Company?

(Testimony of Roy Bowersock.)

A. At that particular time, approximately three months.

Q. After you finished the audit of the books of Weatherford Oil Tool Company, then when did you next have any contact with any of the accounting records of any of the parties to this action?

A. Oh, gosh, I don't remember exactly.

Q. Was it recently?

A. I have worked off and on, I think, ever since that time.

Q. Ever since?

A. I would say, off and on, we have had either audits or tax returns for Mr. Hall, who is a party to this action, as I understand your question. So with respect to one phase or the other, I would say that a third of my time was spent [2774] from that time until I took employment with Mr. Hall in January of 1953.

Q. During that period of time from June of 1951, to date you have never had time to find out why these credit memorandums were issued, is that your position?

A. Mr. Lyon, in making an audit of the books of the company I would not be interested in why credit memorandums were issued, nor am I interested nor have I ever been interested in establishing the policies of Weatherford Oil Tool Company or Weatherford Spring Company. That is the company's business. And auditor has nothing to do with such things as that.

Q. Why did you make these accounting surveys?

(Testimony of Roy Bowersock.)

Isn't it for the purpose of determining the amount of royalty that Mr. Hall might be entitled to receive? A. No, sir.

Q. In no case? A. No, sir.

Q. You never made any determination of that?

A. Did I ever make any determination of the royalty that Mr. Hall might be entitled to receive from Weatherford Oil Tool Company, you mean?

Q. Or from any other plaintiff organizations?

Mr. Scofield: I object to that, your Honor.

A. No. It was not entailed—— [2775]

Mr. Scofield: It is entirely outside the direct examination. There has been no examination of this witness with regard to the royalties due Mr. Hall. I can't see that it is material at all to this case.

Mr. L. E. Lyon: It is material to this determination, your Honor. This witness has been placed on the stand as one who has for many years been acquainted with and has testified to the fact that he has been keeping these books for this period of time, and also as to his qualifications. He has testified that he is acquainted with credit receipts but he does not know why they were issued or what for.

I think we are entitled to know what they are for if this witness knows, and I am examining the witness in that regard.

The Court: Please read the question, Mr. Reporter?

(Question read by the reporter.)

The Court: Overruled. You may answer. Do you understand the question?

(Testimony of Roy Bowersock.)

The Witness: Again, I try to clarify the question.

The Court: I understand the question is: Did you ever make any determination of the royalty Mr. Hall, Sr., was entitled to receive from Weatherford Tool Company or any other organization of plaintiffs here in this action? Is that the question?

Mr. L. E. Lyon: Yes, your Honor. [2776]

The Court: It seems to me you might answer that yes or no.

A. Why, I certainly—I will answer yes, but I want to clarify my answer.

The Court: You may explain your answer.

A. We verified the royalties accrued on the books of the companies to see that they were in accordance with the contracts with Mr. Hall. And your question as to whether I made a determination, it sounds like did I compute them and tell them to pay these royalties? No, but we verified what was done and, if there was any incorrectness about it. We corrected the records, or at least corrected our audit report to that extent.

Q. (By Mr. L. E. Lyon): In making that verification, as you have termed it, did you determine and consider returned goods for which credit memorandums were issued?

A. Well, if the royalties were based on sales, we did that.

Q. I am not asking you about "if." I am asking did you do it?

A. I certainly wouldn't know why the goods

(Testimony of Roy Bowersock.)

were returned, Mr. Lyon, even if I had done it. I don't remember whether we took into consideration—we took into consideration the net sales on any computation we made with respect to sales, whether it be on Mr. Hall's royalties or any [2777] other matters. I mean by that, less returned goods and other credit memorandums, etc., but I certainly wouldn't say that I went into the detail of every credit memorandum to see what it was for, and I wouldn't now remember even if I did.

Q. My question is—and you are trying to anticipate, Mr. Bowersock—did you determine why goods were returned, to determine whether a royalty should be charged or should not be charged?

A. I will say no, because I am sure that I did not, but I don't remember. I will say no, I didn't do it.

Q. In the chart which you have prepared of the scratcher sales made by Weatherford—and I presume it is in gross because you do not show on these charts which company it was made those sales, do you?

A. No, sir. You are talking about Weatherford sales?

Q. Yes.

Mr. Scofield: What exhibit, please?

Q. (By Mr. L. E. Lyon): Do you find any indication that you can point out either from that chart or the chart of the summary of sales of scratchers made by B & W to Gulf any accounting

(Testimony of Roy Bowersock.)

indication of any kind that these Weatherford Companies lost sales to B & W?

A. I don't have the Weatherford charts in front of me.

Q. I will place them in front of you. [2778]

Mr. Scofield: Read the question, please.

(Question read by the reporter.)

Mr. Scofield: Now, that is the same question that we had before. He is now asked to give his opinion as to whether or not they lost sales as charged. He has testified only as to the facts of these sales and it is not for him to interpret here whether or not they lost sales. I think that is your Honor's province.

The Court: Sustained.

Q. (By Mr. L. E. Lyon): I have placed before you the chart, which I believe was prepared under your supervision, entitled "Dollar value of scratcher sales made by Weatherford Spring Company of Texas and Weatherford Oil Tool Company, Inc., to Gulf Oil Corporation and subsidiaries in the United States." I do not have the notation of what exhibit number that is here. I should have it. 177-A or -B is the key to it. Which was it, the scratchers?

Mr. Scofield: The scratchers is A.

Mr. L. E. Lyon: 177-A. May I have it to avoid any question? All right. We will say that it is 177-A and try to get on.

Q. Now, that chart, 177-A, shows a fluctuation in sales of Weatherford Spring Companies' sale of

(Testimony of Roy Bowersock.)

scratchers to Gulf Oil Corporation and subsidiaries by months. Is there anything shown by the books, the documents that you [2779] examined, of either the Weatherford Spring Company or the Weatherford Oil Tool Company, Inc., that shows any reason for those fluctuations.

A. So far as the fluctuations were concerned and so far as the reasons for the fluctuations is concerned I wouldn't know. In making this analysis we were not interested in the reason why. We were just interested in developing the figures.

Q. Then your answer is that you found nothing and nothing was called to your attention which showed any reason for those fluctuations on Exhibit 177-A, is that correct?

A. That is correct. And I was not interested in asking for any reasons or looking up any [2780] reasons.

* * *

Mr. L. E. Lyon: That is correct, your Honor, and I would agree with you. But here, your Honor, they have taken the position that they lost sales and we gained them.

Now, can he as an accountant show me anywhere from [2782] either of these charts where there is an indication that any sales were lost by any of the Weatherford companies or any gained by B & W? Now, that is his duty, his position as an [2783] accountant

* * *

The Court: Very well. You understand, Mr. Scofield, what the charts are that are here in evi-

(Testimony of Roy Bowersock.)

dence. Now, we will take an adjournment at this time. You understand the purport of the question, I take it, that will be asked him with respect to each one of these six companies, is that it?

Mr. L. E. Lyon: That is correct. [2785]

* * *

Cross-Examination

(Resumed)

By Mr. L. E. Lyon:

Q. Mr. Bowersock, in compiling any of these charts which have been compiled under your direction, which start with Exhibit 175-A and runs through the series to 180-A, I believe is the last one, have you taken in any way into consideration with respect to any of these oil companies the scratchers and centralizers that any of those oil companies may have purchased from other companies other than B & W or Weatherford?

A. Yes, sir. In the case of Canadian Gulf it is a purchase from Weatherford, Ltd., or a purchase from Import [2793] Tool or through supply stores, if that is what you mean. We only took into consideration B & W scratchers and centralizers and Weatherford scratchers and centralizers.

Q. You did not take into consideration Baker scratchers or centralizers? A. No.

Q. Larkin centralizers, Halliburton scratchers and centralizers, or any of the other companies that were in the business of manufacturing and selling

(Testimony of Roy Bowersock.)

and distributing scratchers and centralizers, did you? A. No.

Q. When you came to making up these charts or summaries with respect to the Texas Company why didn't you follow the same practice as you did with respect to the other oil companies of tabulating and charting the sales of both scratchers and centralizers, and not restrict your charting with respect to the Texas Company to scratchers only?

A. That was my instructions, sir.

Q. Who gave you that instruction?

A. Mr. Scofield.

Q. Do you know any reason why?

A. No, sir.

Q. Then the only thing that you know is that you were instructed with respect to that not to tabulate centralizers?

A. That is correct; scratchers only.

Q. But as far as the five other companies were concerned [2794] you were told to tabulate both scratchers and centralizers, is that correct?

A. With some limitations. For example, on Amerada we took the California sales only. That, again, was by Mr. Scofield's instructions.

Q. Do you know any reason for that?

A. No, sir.

Q. All right. Any other exceptions?

A. No, I believe that is all.

Q. Do you know whether Weatherford now sells or at any time has sold centralizers to the Texas Company?

(Testimony of Roy Bowersock.)

A. Do I know whether Weatherford—

Q. Has now or at any time has sold centralizers to the Texas Company?

A. I am sure they have.

Q. What is that? A. Yes. Yes.

Q. Do you know whether they are now selling scratchers or centralizers—I mean centralizers to the Texas Company? A. I think they are.

Q. Then, as far as you know there was absolutely no reason whatsoever for the instruction to eliminate the centralizers as far as the Texas Company is concerned?

A. That is right. I don't know what the reason was.

Q. Do you know whether the Weatherford companies or [2795] any of them sell scratchers and centralizers to Amerada outside of the State of California? A. Yes, sir; I know they do.

Q. Then as far as you are concerned there is no possible reason you can see for restricting the tabulation to California with respect to that company, is that right?

A. Oh, I can see a lot of possibilities, but I don't know what the reason was.

Q. In these tabulations with respect to the Standard Oil Company of California and the Texas Company in California, I believe you found invoices for a scratchalizer sold by B & W to those companies, did you not? A. That is correct.

Q. Do you understand what that scratchalizer was?

(Testimony of Roy Bowersock.)

A. I have a pretty good idea. I haven't seen one but I have a pretty good idea.

Mr. L. E. Lyon: For the purpose of identification, if it may be stipulated that the scratchalizer is that structure shown upon page 7 of this B & W catalogue which carries the printer's notation "152"?

Will you look at page 7 and see if that is what you understand to be a scratchalizer?

Mr. Scofield: That will be stipulated, your Honor.

The Court: Stipulated that it does depict one, is that it? [2796]

Mr. Scofield: Yes, sir.

The Court: Do you accept the stipulation?

Mr. L. E. Lyon: I will accept the stipulation. And I will ask that page 7, particularly, of this catalogue which I just handed to the witness be received in evidence, particularly that portion of the catalogue which refers to B & W scratchalizers and has a picture of the scratchalizer in Figure 24, as the Defendants' Exhibit. What is it?

The Court: Has the entire document been marked as yet?

Mr. L. E. Lyon: None of it has been marked before, your Honor.

The Court: Is it Defendants' Exhibit next in order?

Mr. L. E. Lyon: It is next in order, except for these that I just gave him to mark, your Honor.

(Testimony of Roy Bowersock.)

Mr. Scofield: Can it also be stipulated in connection with that exhibit—

The Court: Let us mark it first.

Mr. Scofield: All right.

Mr. L. E. Lyon: FR. Mark it FR.

The Court: Is there an FQ?

Mr. L. E. Lyon: I am sure there was yesterday.

The Court: According to my notes the last one marked yesterday was FP.

Mr. L. E. Lyon: FP. All right, FR, and I will put in FQ in just a minute, which is a missing sample of the Standard [2797] Oil Company of California purchase order which has the notice on it, your Honor. I would rather reserve FQ for that purpose to keep them together.

The Court: Very well. Then page 7 showing the scratchalizer will be marked in evidence as Defendants' Exhibit FR, is that it?

* * *

Mr. L. E. Lyon: As shown in Figure 24 of FR the scratcher fingers are of the Multiflex finger type.

Q. That structure of scratchalizer as shown in Exhibit FR, Figure 24, is combined with a scratcher and centralizer, is it not? A. That is correct.

Q. You separated the sales of scratchers and centralizers to the Standard Oil Company and charted the sales separately, did you not, as to scratchers and centralizers? [2798] A. Yes, sir.

Q. And did that by dollar volume?

(Testimony of Roy Bowersock.)

A. That is right; and we did it on any place where we found the sale of a scratchalizer.

Q. Where did you put the scratchalizers, either centralizers or the scratchers or in both?

A. We put them in both.

Q. I see. So that, then, you have a duplication in the Texas Company and Standard Oil Company of California sales of the scratchalizers, both in the centralizer sales and in the scratcher sales, is that correct?

A. No, sir.

* * *

A. I believe I confused the issue on my previous answer. We split up the scratchalizer, the selling price of [2799] the scratchalizer, as between scratchers and centralizers and included a portion in each. Mr. Knapp and myself arrived at what we thought was a fair way of splitting that up, by taking list value of the two scratchers and the list value of the centralizer, and then I have forgotten now what the percentage was, but we applied that universally throughout and split the sale of a scratchalizer to both scratchers and centralizers.

Q. (By Mr. L. E. Lyon): I don't believe that I completely get just straight what you mean. You mean you took something like 60 per cent of the total sale of the scratchalizer and applied that 60 per cent of the sale to centralizers and the other 40 per cent to scratchers, is that correct?

A. That is correct.

Q. You did not include the 100 per cent of the

(Testimony of Roy Bowersock.)

sale in the centralizer column or the 100 per cent in the scratcher column? A. That is correct.

Q. And the only justification that you had for that split was not with regard to cost in any way, but merely with respect to what you say the list price was? A. B & W's list.

Q. Of scratchers and centralizers, is that it?

A. That is right; B & W's list price. [2800]

Mr. L. E. Lyon: At this time, your Honor, I will ask the clerk to mark, so that the record will be straight, as Exhibit FQ, photostatic copy of the purchase order of Standard Oil Company which was referred to yesterday during the taking of testimony of this witness, it being the purchase order of the Standard Oil Company of August 9, 1947, directed to B and W, Inc., and which has in it the patent notice which this witness read into the record.

The Court: It will be so marked. The last exhibit is Defendants' Exhibit FQ?

Mr. L. E. Lyon: Yes, your Honor.

(The document referred to was marked Defendants' Exhibit FQ for identification.)

The Court: And it is not offered in evidence at this time?

Mr. L. E. Lyon: No. It is marked for identification, just to keep the matter straight.

Q. Mr. Bowersock, I am going to place before you the charts which you have prepared or which have been prepared under your supervision with respect to the California Company, which include

(Testimony of Roy Bowersock.)

Exhibits 178-A, 178-B, 178-D, and 178-E. Do you have copies of them before you?

A. Yes, sir. I have the negatives of those.

Q. You have the negatives. At the adjournment of the proceeding last evening you were requested to be prepared to [2801] point out from the charts any indication that you can find from those charts of sales lost by the Weatherford companies, as they are designated on these charts, and which were gained by B and W, in respect to the charts which I have particularly directed your attention to. Now, I will ask you to answer that question, and that is the charts with respect to the California Company.

A. In the case of the California Company, so far as the charts are concerned, taking the Weatherford charts, Exhibits 178-A and 178-B, they reflect a sale of scratchers and centralizers, not large, but some sporadic sales up through 1948, half into—even into 1949, and no sales whatever from March, 1950, through April of 1951, and then a pickup of a few scratcher sales, sporadic, over until November of 1952, at which time a more healthy business comes in.

And in the case of centralizers, a few more during 1951 and up, and they become solid from about July of 1952 for the balance of the period.

B and W to this company had very sporadic sales, and the charts do not reflect sales of any consequence until November of 1952, and the same with both

(Testimony of Roy Bowersock.)

scratchers and centralizers, except for a few centralizer sales in 1951.

Mr. L. E. Lyon: Just kindly answer the question.

Mr. Scofield: Please let him finish his answer.

Mr. L. E. Lyon: Your Honor, he is referring to the [2802] charts. We can see what is on the charts.

Q. The question is, will you point out any sales, as shown by these charts, that were lost by the Weatherford companies and gained by B and W? Will you do that?

A. In respect to this particular company, the charts do not reflect clearly any such loss and gain.

The Court: It is a matter of interpretation, isn't it?

The Witness: Well, these charts do not reflect that anybody got very much business and they don't reflect—certainly you couldn't say that B and W got very much business during this period up prior to November of 1952, less than \$500 in any month, of either scratchers or centralizers. On the other hand, you can say that you can see that Weatherford was starting to get some business, it was having some sporadic sales until in 1950 when it ceased to have any, and then again it picked up in the latter part of the period.

That is about all you can say insofar as the charts show of loss.

Q. (By Mr. L. E. Lyon): You pointed out that Weatherford had practically no sales in 1950 of either scratchers or centralizers. You said prac-

(Testimony of Roy Bowersock.)

tically none, which is true, but as far as B and W is concerned, the charts show that they had no business of any kind in that year, don't they?

A. That is correct.

Q. So that your answer, insofar as your analysis of [2803] this matter and these charts is concerned, as far as the California Company is concerned, they don't show any loss of business by the Weatherford Company and a gain of that loss by B and W, is that correct?

A. That is right, insofar as the charts are concerned, this particular company.

Q. I will ask you to place before yourself the charts which you have prepared of the Union Producing Company, which are Exhibits 176-A, 176-B, 176-C, 176-E, 176-F, 176-G, 176-H, and 176-I, and I will ask you to add to the same question to show from these charts any loss of business of the Weatherford Spring Company that was gained by B and W.

And, Mr. Bowersock, do you have on the negatives the exhibit numbers?

A. Yes, sir, I have them.

Q. The reason I ask you that is, I would like, when you are referring to one of these charts in any of your answers, if you would kindly refer at the same time to the exhibit number so that the record will be clear as to what you are talking from.

A. All right.

This question is best answered by referring to Exhibits 176-H and 176-I, which were prepared ex-

(Testimony of Roy Bowersock.)

clusively to show what the condition was of the sales between one company as compared to the [2804] other.

On Exhibit 176-H it shows the sales of scratchers by both B and W and Weatherford and it shows quite clearly that up until January, 1949, Weatherford had all of the business, there was no B and W business at all.

The Court: I don't like to interrupt the witness, but isn't that a matter of argument from the charts? Can't any school child see that from the charts?

Mr. L. E. Lyon: That is correct, your Honor, but that is not my purpose. I am not asking him to testify what the charts are, but to point out from these charts—because it becomes critical and I am going to ask him if he says any date, because that will crystallize this issue, and with respect to this particular case here I am going to refer to the depositions of the Union Producing Company which show that on January 18, 1950, Mr. Quigles in charge entered an order that no more Weatherford material was to be purchased because, he said, "You called me and took my deposition and involved me in this litigation," to Mr. Scofield, and said, "because of that I am not going to buy any more material from you."

The Court: Mr. Lyon, what purpose does this witness serve in a situation of this kind? He took all the figures, and the defendants will contend that the figures are the result of a certain consequence, and I take it that the plaintiffs will contend that

(Testimony of Roy Bowersock.)

these changes are the [2805] consequences of other events.

Mr. Scofield: That is right.

The Court: The charts, as I see them, speak for themselves if the figures are correct; no amount of opinion on those charts would change my view of it, very frankly speaking. The question in my mind would be, what caused this thing to happen?

Mr. L. E. Lyon: That is correct.

The Court: And on that I take it that this witness doesn't know any more about it than I do.

Mr. L. E. Lyon: But from an accounting standpoint, your Honor, there is a point at which this chart must show some break or must show some change of conditions. I am trying to get first at that point where this witness as an accountant would say that there was some cause or effect there that would cause a change in business.

The Court: If he knows of any. I mean he wouldn't know it as an accountant. He would know it as an employee of the business probably.

Mr. L. E. Lyon: Well, from an accounting standpoint, he could say that there was a rapid business change here that was caused by some turn or effect other than ordinary business.

The Court: Well, we can look at the chart and see what happened, assuming that the chart is correct, but he cannot [2806] look at the chart and tell what caused it to happen.

Mr. L. E. Lyon: No, I am not asking him what

(Testimony of Roy Bowersock.)

caused it to happen. I am asking him where there was a cause.

The Court: If he knows of any.

Mr. L. E. Lyon: No. I mean as an accounting record. This man is an accountant, and there are business fluctuations that we all recognize at all times. Now, is there something shown by these charts that he can point out to us that is unusual, as an accountant, which he can say is out of the ordinary loss of business by one company and a gain by the other? That is the question. Otherwise I don't feel that I am—there are seasonal matters, there are matters in Canada where there are frozen-out drilling conditions, where they are almost stopped, I don't know, even a cutoff of sales, and it wouldn't show anything to me, and that is not merely argument.

The Court: But he cannot tell you that, can he?

Mr. L. E. Lyon: He knows as an accountant. He is employed a hundred per cent of the time by this company.

The Court: Are you asking him about conditions generally?

Mr. L. E. Lyon: I am asking him one simple question: Can he as an accountant, and being familiar with this business, point out to me anything shown by these charts which he will say shows a loss of sales by Weatherford as against ordinary sales change and a gain of that sale by B and W? Now, that [2807] is different and that is taking the matter of interpretation, which is very dangerous, out

(Testimony of Roy Bowersock.)

of my hands and out of the court's hands into the hands of a presumed expert to tell us, so that he can say that in ordinary business condition changes—that he can say that these charts, as an accountant, show a loss of business which would not have been lost by ordinary business conditions and gained by the other.

The Court: He can't know that. He isn't competent to say that. That isn't an accountant's problem. That might be an executive's problem. But I doubt very much if it is even the subject matter of opinion testimony.

Here we can see what the charts show. Query: What caused it? That is not an accountant's problem. What caused it? Unless he happens to know from the facts by reason of his connection with the plaintiff, and I take it that he has told us he doesn't know any facts about it, as to what caused it, of his own knowledge.

Mr. L. E. Lyon: Well, I didn't so understand his testimony.

The Court: Whatever the charts show are the results of figures. Now, it has not been shown that he knows anything about who gets the business and who loses it and how it is gotten and how it is lost. All he does is record the results of those happenings.

Mr. L. E. Lyon: All right. Then, taking it from that [2808] standpoint and no showing that there is any connection from one to the other, all the charts and all the testimony with reference thereto are immaterial, they have not been connected up in any

(Testimony of Roy Bowersock.)

way, unless it is presumed that they are connected in some way through this witness.

The Court: It may be. The question remains, What caused to happen what did happen? But this witness isn't competent to express an opinion on that, I take it.

Mr. L. E. Lyon: If that is the court's ruling, that this witness is not competent to construe these charts insofar as with respect to any showing of loss by one and gain by the other, I will abide by the court's ruling.

The Court: If you point out to me anything on these charts that needs construing by an expert, I will be glad to have it. Perhaps I do not understand them at all, but to me they are simple enough for a high school student to understand.

Mr. L. E. Lyon: It is not my province to assume that the court understands these charts. In fact, I would hate to say I can understand them. I would hate to say that I can understand the loss of sales and form an accurate determination of cause and effect through a period of time where it shows we have had no sales.

The Court: Well, if you are talking about the over-all business, that is one thing, Mr. Lyon. If you are speaking [2809] about certain accounts, that is another. As I understand, the plaintiff's theory is this: that it had a customer A and that it was doing business with this customer and that B and W, by unfair business practices, took the business away, and as I understand it these charts are

(Testimony of Roy Bowersock.)

designed or intended to show that one day or in one month or in one year the plaintiffs had that customer, had that account, and then the next year the B and W had that account, and the plaintiffs did not have it.

Now, that doesn't prove everything that the plaintiffs will have to prove, of course. The presumption is that those transactions were fair and that the ordinary course of business has been followed and that the law has been obeyed.

Now, how did the defendants get the business? They may have gotten it through a myriad of circumstances. They may have gotten it by better salesmanship, by having a superior product, or by personality or by reason of any number of circumstances. They might have gotten it, as the plaintiffs contend, by unfair trade practices. But there is nothing in these charts, I take it, that the plaintiff even contends shows what happened as far as causing the figures to change, is there?

Mr. Scofield: You are absolutely correct, your Honor. I do not think the charts show at all any unfair trade practice or any reason. Just as you say, they show that there [2810] was certain business had by Weatherford or B and W and that after that date the business went elsewhere. Now, where it went, we still got to prove, and that it was an unfair trade practice. For instance, in the case of this Union Producing Company, the very charts he has before him, that is, we had the business up to a

(Testimony of Roy Bowersock.)

certain date and there was a period then that they had all the business and we had none. Now, we still have to prove why that change took place.

The Court: Well, I recall that one of the charts indicates you got it back again.

Mr. Scofield: That is right.

The Court: Now, the plaintiffs may have gotten it back again by an unfair trade practice.

Mr. Scofield: That is right.

The Court: For all I know, at this stage of the case, but the chart would not help us, I take it.

Mr. Scofield: Except to show what happened to that particular account.

The Court: And when you talk about a loss of business, I think you must speak of it with more specificity, because it may not be a loss of general business but a loss of accounts.

Mr. L. E. Lyon: With that understanding, it is not my desire to unnecessarily prolong this, because I am trying to bring out and crystallize from this evidence the facts and I [2811] think they have been crystallized by this examination, that these charts in themselves prove nothing, as it is now admitted, and they are a set of figures and they have not been connected in any way at the present time.

The Court: Well, if they are connected in any way, let us put it this way: they are connected but to the witness and not by the charts themselves and not by what this witness says or proposes to say.

I sometimes wonder how either one of these people would have any business left, after all this

(Testimony of Roy Bowersock.)

litigation. It may be that these accounts jump from one side to the other through gambling on who is going to win this lawsuit.

Mr. L. E. Lyon: I think, if your Honor please, if I might digress a little bit there, it will show maybe a major effect upon the change of business for one of the companies to go and make a statement, as in the case of Union Producing Company, and drag in a customer into the matter, and the customer says, "I won't buy from you any more," and that is what happened, I was pointing out, in connection with the Union Producing [2812] Company.

Weatherford brought in their people, took their depositions, made them, as they said, a party to the action; and they said: Now, that they have done that, we won't buy from you any more. Certainly that it no unfair competition on our behalf.

The Court: That is a matter of argument.

Mr. L. E. Lyon: Yes.

The Court: I would be more inclined to be surprised by a customer who would buy from either one of them if he had any alternative.

Mr. L. E. Lyon: That is one of the factors I want this evidence to show, that these charts do not show how much of the business was transferred to Halliburton, Larkin or Baker because of the acts.

The Court: Of course, that is a matter of the weight.

Mr. L. E. Lyon: Yes, that is a matter of the weight of the testimony. That being true and in

(Testimony of Roy Bowersock.)

view of your Honor's ruling, I will forego further cross-examination of this witness. [2813]

* * *

BRUCE BARKIS

(Recalled)

* * *

Cross-Examination

By Mr. L. E. Lyon:

Q. Mr. Barkis, I place before you documents which have heretofore been marked for identification as Exhibits FI-1, FI-2, and FI-3, and FH-1, FH-2, and FH-3.

At this time, in lieu of the originals, I would like to have leave to substitute photostatic copies for the originals of these records, if there is no objection.

Mr. Scofield: There is no objection.

The Court: It is so ordered.

Q. (By Mr. L. E. Lyon): Mr. Barkis, you have testified on your examination that you personally located these records in the offices of your company, where? A. In Houston, Texas.

Q. Referring to the Exhibits FH-1, FH-2, and FH-3 series, is this a complete file of all papers with respect to that particular transaction that you were able to locate?

A. Yes, it is. It refers to Wells 596 and 598.

Q. Well, FH only refers to 596.

A. That is correct.

(Testimony of Bruce Barkis.)

Q. You have testified that you were selling direct to the Gulf Company at the Goldsmith lease at that time. Was that pursuant to any prior arrangement made with the Gulf Company?

A. Yes, it was. [2912]

Q. What was that prior arrangement?

A. The Gulf Company had advised us that they would place their orders, purchase orders, direct with us, and requested that we grant them the usual supplier's discount. That was done through the purchasing department. And on that basis, the business of the Goldsmith lease was handled in that manner and the orders were placed direct by Gulf Oil to B and W, Incorporated.

Q. Now, how did it happen that you looked in the records at Houston for these particular records, Mr. Barkis?

A. Well, I was aware of Mr. Hall, Sr.'s testimony where there was the controversy over the charge of mismarking our invoices, and I went through the files to examine these records.

Q. And these particular wells were the wells referred to by Mr. Hall, Sr., in his testimony, were they not?

A. Yes. They are.

Q. And just state now, taking Exhibit FH-1, just what these records are, and FH-2 and FH-3.

A. FH-2 is a delivery ticket of B and W, Incorporated and it is evidence of delivery of equipment to the Goldsmith Well No. 596-56 on August 31, 1950.

(Testimony of Bruce Barkis.)

Q. Now, does that Exhibit FH-2 tell you how that equipment was delivered to that well?

A. Yes, it does. [2913]

Q. How was it delivered?

A. Our representative in West Texas at that time was A. J. Flowers, and this Exhibit FH-2 shows that he delivered the equipment to the well.

Q. Does that Exhibit FH-2 show any signature of anyone receiving that equipment?

A. Yes, it does. Mr. C. J. Fisher was the superintendent on the Goldsmith lease at that time, and his signature appears on this Exhibit FH-2.

Q. Now, Exhibit FH-2 shows that there was delivered then to that well, to Mr. Fisher at that time, certain equipment. How was that equipment designated to the Gulf Company by the delivery ticket? A. It shows the description——

Mr. Scofield: The delivery ticket is the best evidence, your Honor. It is connected to the exhibit. It is in evidence.

Mr. L. E. Lyon: It is not in evidence yet.

Mr. Scofield: It has been marked, your Honor. The delivery ticket is there.

The Court: Are you testifying from your own knowledge or are you just testifying to what appears on the exhibit, Mr. Barkis?

The Witness: I am just testifying to what appears on it.

Mr. L. E. Lyon: Well, if you are just doing that—— [2914]

(Testimony of Bruce Barkis.)

The Court: Let the document speak for itself then.

Mr. L. E. Lyon: That is correct.

Q. Now, proceed with Exhibit FH-1, Mr. Barkis, and tell us what that is.

A. Following the delivery of equipment to the well, a copy of this delivery ticket would be furnished Gulf Oil Corporation, transmitted to their Fort Worth, Texas, office, which is division headquarters, and the purchasing department there issued their purchase order dated September 13, 1950, which is Exhibit FH-1, and the comment in the bottom portion of the order, purchase order, shows "Confirming Order 8-31-50," which is a confirmation and is the ordinary practice of the Gulf Oil in such matters.

Q. Do these papers show that the order was originally a telephonic order to your representative to deliver the goods immediately to the well without waiting for an order from the Gulf headquarters?

A. Yes, it does, and that was customary practice.

Q. Now, proceed with Exhibit FH-3. What is that?

A. Following the receipt of the purchase order, Exhibit FH-1, in the Houston office, it was customary practice, and still followed, to make an invoice.

Exhibit FH-3 is the exhibit number of the invoice of B and W, Incorporated, to Gulf Oil Corporation at Fort Worth, covering the equipment furnished on delivery ticket, Exhibit [2915] FH-2, and also shown on the purchase order, Exhibit FH-1.

(Testimony of Bruce Barkis.)

Mr. L. E. Lyon: At this time I will offer in evidence the documents as identified by the witness, as Exhibits FH-1, FH-2, and FH-3, Exhibit FH-1 being the purchase order No. A 98589 of the Gulf Oil Corporation to B & W, Inc., dated September 13, 1950, and stating "Confirming Order 8-31-50"; Exhibit FH-2 being the delivery ticket of B and W, Incorporated, showing the delivery on delivery ticket No. 3991 to the Gulf Oil Company, Goldsmith lease, Well No. 596-56, on August 31, 1950; and Exhibit FH-3 being the invoice of B and W, Inc., to the Gulf Oil Corporation, dated September 26, 1950, and carrying the Gulf order number A-98589.

Mr. Scofield: Object to the offers, your Honor, because they are incomplete.

The Court: That goes to the weight, does it not?

Mr. Scofield: What is it?

The Court: That goes to the weight of it, does it not?

Mr. Scofield: Yes, sir.

The Court: Objection overruled. They are received in evidence.

(The documents referred to, marked Defendants' Exhibits FH-1, FH-2, and FH-3, were received in evidence.)

Q. (By Mr. L. E. Lyon): Now, Mr. Barkis, will you similarly explain for the purpose of the record the documents, Exhibits FI-1, FI-2, and FI-3 for identification? [2916]

A. The records are similar to the previous offer.

(Testimony of Bruce Barkis.)

The first is Exhibit FI-2, which is the delivery ticket dated August 31, 1950, covering the delivery of four 7-inch B and W spiral bow, latch-on centralizers and eighteen 7-inch B and W Nu-Coil scratchers, to Well No. Goldsmith 598-56, by Mr. A. J. Flowers, a B and W employee, and receipted for by Mr. C. J. Fisher of the Gulf Oil Corporation.

In the same way as previously, the purchasing department of Gulf Oil in Fort Worth issued purchase order, Exhibit FI-1, a confirmation order for this equipment.

And on September 26, 1950, B and W invoiced Gulf Oil Corporation on Exhibit FI-3 for the equipment delivered and specified in the purchase order for Well No. Goldsmith 598-56.

Q. With respect to this equipment delivered to these wells, 596 and 598, Mr. Barkis, was there any other paper material supplied by B and W to Gulf Oil Corporation of any kind or character?

A. None that I know of. None.

Mr. L. E. Lyon: I will offer in evidence at this time the documents identified by the witness as Exhibits FI-1, FI-2, and FI-3, the documents being, respectively, the purchase order of Gulf Oil Corporation addressed to B & W, No. A-98587, dated September 13, 1950, which is Exhibit FI-1; Exhibit FI-2, is a delivery ticket of B and W, Inc., No. 3992, dated August 31, 1950; and Exhibit FI-3 is [2917] the invoice of B and W dated September 26, 1950, directed to the Gulf Oil Corporation and bearing

(Testimony of Bruce Barkis.)

the Gulf order number A-98587, showing the Goldsmith well number 598-56. [2918]

* * *

JOHN HALL

(Recalled)

Direct Examination

(Resumed)

By Mr. Scofield: [2940]

* * *

Mr. Scofield: We have here, your Honor, a schedule showing the purchase of Weatherford equipment over a period of about a year from 1947, and at that juncture the purchases of this equipment was stopped. And that business was never again recaptured. Then the 181 exhibit shows that the business went to B & W.

The Court: Is the purpose of this conversation to prove why Mr. McCloskey did so and so?

Mr. Scofield: No. The purpose of this conversation is to show what Mr. Hall did about the termination of this business insofar as Weatherford Oil Tool is concerned and how he attempted to recapture that business and whether he was successful or not.

The Court: I will admit the conversation, but not what Mr. McCloskey may have said, as proving the truth of what [2941] he said.

Mr. Scofield: That is all right.

(Testimony of John Hall.)

The Witness: Ask the question again. I mean, read it back.

(Question read by the reporter.)

A. Mr. McCloskey said that they had quit using Weatherford scratchers and centralizers because of threats made by B & W with respect to their patents, Kenneth Wright making those threats.

Q. Were you able to obtain that business or obtain any business from the Amerada Petroleum Company after they terminated your business in the end of 1947? A. We weren't in California.

Q. Now, did you contact anybody in the Amerada Petroleum Company after that date?

A. I did.

Q. When?

A. I contacted Mr. McCloskey again in the latter part of 1948.

Q. Where did you see him?

A. I saw him in the same office in the Subway Terminal Building.

Q. Anybody with you?

A. No. I was by myself.

Q. Was there anybody with Mr. McCloskey when you had [2942] this talk with him?

A. There may have been. No one sitting with us. There is another office right by there and the door was open, so they could have heard the conversation. Who it was I don't know.

Q. What was the conversation at that time that you had with Mr. McCloskey?

(Testimony of John Hall.)

Mr. L. E. Lyon: Objected to, your Honor, as calling for hearsay testimony.

The Court: It will be received for the purposes, insofar as the third party is concerned, as showing what he said, and not for the truth of what was spoken. Overruled.

A. In answer to my question of Mr. McCloskey as to whether or not the——

Q. (By Mr. Scofield): What did you ask Mr. McCloskey on that occasion?

A. I asked Mr. McCloskey——

Q. Do you know his initials, Mr. McCloskey's initials?

A. It is Downs McCloskey. I don't know his initials. I think they call him "Downs."

Q. What is his office with the Amerada?

A. He is, I would say, division geologist or California geologist. He is a geologist.

Q. What was the purpose of your meeting?

A. My purpose—— [2943]

Mr. L. E. Lyon: Objected to as immaterial.

A. ——of the meeting was to get business——

The Court: Overruled.

A. ——again and to attempt to find out if they still feared the B & W patents.

Q. (By Mr. Scofield): Now, give me the substance of the conversation.

A. He said there was no use——

Mr. L. E. Lyon: The same objection, your Honor.

The Court: Overruled.

(Testimony of John Hall.)

A. Mr. McCloskey said there was no use discussing patents now because Amerada had stuck a string of casing with B & W scratchers on it in the Rio Vista area before they got on bottom with the pipe. As I recall, he said the casing was below 5,000 feet and was to be run about 8,000 feet and that, as a result of the pipe sticking, Amerada would not use anybody's scratchers any more.

Mr. Scofield: That is all. [2944]

* * *

Cross-Examination

By Mr. L. E. Lyon:

Q. Mr. Hall, who was George Hall?

A. George Hall was my brother.

Q. And were these presumed sales made at Huntington Beach or at Newport Beach, to the Amerada Petroleum Company?

A. Call it what you wish. It was in the flats between Newport and Huntington Beach. Whether the city boundaries of either town go out, I do not know.

Q. How deep was this well that you say you were on at the Amerada property?

A. Oh, I would say somewhere around the neighborhood of 4,000 feet, more or less.

Q. Well, which was it, do you have any recollection? A. I stated it.

Q. What was the well name and number?

A. I do not recall the well number or name.

(Testimony of John Hall.)

Q. What types of scratchers were used?

A. We used Weatherford scratchers and Weatherford spiral centralizers.

Q. How many?

A. Let us say in the neighborhood of a hundred scratchers, judging from this chart I have in front of me here. I don't know what exhibit it is.

Q. What are you trying to do, trying to calculate back [2945] from the \$709.26 for the February, 1946, chart?

A. That is correct.

Q. Do you know whether all those scratchers were used in a single well?

A. In that well? Well, they most certainly were.

Q. I mean, all of them that were charged for in the month of February, 1947, were all used on one well?

A. I am pretty sure they were, and likewise all those centralizers. As I recall, it was a pretty good-sized job.

Q. And it is your statement now that all the centralizers and all the scratchers shown on Exhibit 181 and included in the tabulation, dollar tabulation, for the month of February, 1947, were used on a single well between Newport and Huntington Beach in what you have called the flats, by the Amerada Petroleum Company, is that right?

A. There could have been two wells there, but I rather think that it was probably one well.

Q. Well, do you have any recollection?

A. I have a recollection it was a sizable job.

(Testimony of John Hall.)

Q. Your recollection is that it was something in the neighborhood of 4,000 feet, too?

A. Yes. It could have been some less or slightly over that.

Q. Were these scratchers and centralizers mounted on a casing? [2946]

A. They certainly were.

Q. Where, and the length of casing?

A. Running from the bottom, from the bottom joint on up as high as they went, spaced equidistant—

Q. Well, how high did they go?

A. —at intervals of 10 to 15 feet apart.

Q. Well, which were they?

A. As I stated, at intervals of somewhere between 10 and 15 feet apart.

Q. That is as close as you can give it?

A. That is right.

Q. How far apart were the centralizers positioned?

A. They were staged somewhere in the neighborhood of possibly 40, 45 feet apart, more or less.

Q. What size casing was it?

A. I am quite certain it was 7-inch casing.

Q. Was there any cementing operation carried on? A. There was.

Q. Was the casing with the scratchers on it moved while the cementing was carried on?

A. It certainly was.

Q. Was it continued to be moved until the pumping of the cement into the well was stopped?

(Testimony of John Hall.)

A. The casing was moved to the very end of the cementing job, when the plugs bumped, the casing was put in place—after [2947] the plugs bumped, the casing was put in place.

Q. Were all these operations that are noted in Exhibit 181 carried on in that same field, in that same flat?

A. I wouldn't say necessarily so. They could have been carried on elsewhere.

Q. I am asking you as a fact, do you know?

A. I don't know.

Q. Well, were they?

A. I didn't say that they were, sir.

Q. Well, I am asking you, were they all carried on in the flat between Newport and Huntington Beach?

A. I still can't say that.

Q. What is that?

A. I still can't say that they were.

Q. Well, if you can't say so, say so. Don't say that they might have been or may not have been.

In April, 1947, there is a charge of \$490.88 for scratchers and centralizers. Were those all used on one well?

A. Just a moment. You couldn't tell by this whether they were all used on one well.

Q. Were you on this well?

A. I beg your pardon?

Q. Were you on these wells of Amerada at that time?

A. I told you I was on the first well.

Q. Were you on the second one? [2948]

A. There was a man by the name of Allen Moore—

(Testimony of John Hall.)

The Court: Were you on the second one?

The Witness: No, sir.

The Court: Well, answer the question. Just listen to the question and answer the question and we will get along much better.

Q. (By Mr. L. E. Lyon): Isn't it a fact that in one of these wells, with Weatherford scratchers, Weatherford centralizers, of the Amerada Petroleum Company in the year 1947, the casing was stuck off bottom on an upstroke of the reciprocation so that they could not lower the casing to bottom, in one of these particular jobs for which the charge is made in Exhibit 181?

A. I do not know of any such fact.

Mr. Scofield: At the Huntington field?

Mr. L. E. Lyon: One of these particular jobs.

Mr. R. F. Lyon: The first one.

Q. (By Mr. L. E. Lyon): Do you recall that Amerada in the year 1947 started to use rotating scratchers manufactured by Halliburton Oil Well Cementing Company?

A. I do not make any such recollection.

Q. Do you know B and W brought out, introduced the rotating scratcher to Amerada?

A. I do not recall that either.

Q. You do know when Amerada started using Baker [2949] centralizers?

A. I do not know that.

Q. Do you know when Amerada started using centralizers other than those manufactured by Weatherford or B and W?

(Testimony of John Hall.)

A. I know about what time they started—oh, you say other than those manufactured—no, I do not know.

Q. I believe you were present during the time of the examination partially of the books of B and W. Do you know what type of centralizers, of scratchers, B and W sold Amerada in October of 1947?

A. I was not present in part of the examination. I was present at the start of the examination, and Mr. Knapp asked me to leave, so I left. I did not see any invoices or charges to Amerada.

Q. That answers the question.

Do you know of your own knowledge—you were here—what the scratchers were that B and W sold to Amerada for use in the flats between Newport and Huntington Beach? A. I do not.

Q. You don't know then that they were not rotating scratchers, do you?

A. I do not know whether they were rotating or reciprocating.

Q. Did you make any effort to get Mr. McClosky to come in here to tell his own story? [2950]

A. I did.

Q. What did he say?

A. The girl said that he was out of the State.

Q. Then you did not recently contact Mr. McClosky, either now or at any of the other times that this case was on trial, is that correct?

A. With respect to what?

Q. This testimony that you are giving.

(Testimony of John Hall.)

A. I did not.

Q. Is it your testimony that Amerada Petroleum has not used in California any scratchers or centralizers since December of 1947—1948?

A. That is not my testimony.

Q. Is it your testimony that Mr. McClosky told you that because of the use of a B and W scratcher in 1948, that they had never used scratchers or centralizers again?

A. He stated that because of the sticking of the casing, they had used them——

Q. And had never used them again?

A. Everybody's. Now, wait a minute. What do you mean by "never used them again?"

Q. Just what I said.

A. I don't know what they have done since that time, since talking to Mr. McClosky.

Q. And you have made no effort to talk to Mr. McClosky [2951] or anybody in California since December—of Amerada—since the latter part of 1948, to determine whether or not they are using scratchers or centralizers?

A. I have contacted Dick Holman since then in an attempt to sell him. I was not trying to sell him on anybody else's scratchers.

Q. And at that time you did not ascertain whether or not they were using any other manufacturer's scratchers or centralizers?

A. No. I did not ascertain. I assumed that they weren't.

Q. You assumed what?

(Testimony of John Hall.)

A. I assumed that they were not.

Q. What made you have that assumption?

A. From what Mr. McClosky had said previously.

Q. You mean in 1948? A. That is correct.

Q. When was the last time you contacted Amerada in an endeavor to sell them?

A. Oh, I think I saw Mr. Holman about last June here. [2952]

Q. There is nothing that he said at that time that indicated to you that they were not using scratchers or centralizers, was there?

A. That they were not using them?

Q. Yes.

A. He didn't say that they were or were not. The only thing he said to me was that he would consider.

Q. And that is all he said to you?

A. What I had said. That is all he said to me, referring to the California area, of course.

Q. Amerada uses scratchers and centralizers in other areas, do they not?

A. Yes, I understand that they do.

Q. Do you know when the drilling program of Amerada ended in the flat between Huntington Beach and Newport Beach?

A. I would hesitate to say on that because I don't know when it was ended.

Mr. L. E. Lyon: That is all.

(Testimony of John Hall.)

Redirect Examination

By Mr. Scofield:

Q. On how many occasions did you see Mr. McClosky after the conversations that you had the latter part of 1948, when he told you that they were not going to use scratchers and centralizers?

A. I don't think I have seen Mr. McClosky since that time. I saw—it could have been at some A.P.I. meeting, [2953] but if I saw him at one of those meetings I didn't talk to him.

Q. Have you kept track of the Amerada Company in any way as to whether or not they have used scratchers since 1948, either rotary scratchers or the collar scratchers?

A. In contacting Mr. Dick Holman. I have contacted him on a number of occasions.

Q. What do you mean by a number?

A. Well, whenever I have been in California I have usually attempted to contact Mr. Holman.

The Court: 20 times, or what?

The Witness: Oh, no. Probably since that time I have talked to Holman, definitely, once maybe twice.

The Court: You would have saved a great deal of time if you had said that in the first place.

Q. (By Mr. Scofield): And did Mr. Holman indicate to you or did he tell you that they had started using scratchers again on any of these subsequent talks? A. No, he did not.

(Testimony of John Hall.)

Q. When did you get the information concerning the well in which the pipe was stuck?

A. I got the information first from Mr. Holman.

Q. When?

A. In the latter part of 1948, on the same day, whatever day that was, that I talked with Mr. McClosky. [2954]

Q. Has anyone in the Amerada Petroleum Company ever told you that they use rotary scratchers?

A. I believe that Holman mentioned that they had used some B & W rotary scratchers. How many, I am quite sure he didn't say.

Q. Do you know whether they were rotary scratchers that stuck the pipe?

A. No, I do not.

Q. Why did they discontinue the purchase of centralizers from Weatherford?

Mr. L. E. Lyon: That is objected to as calling for a conclusion of the witness, your Honor.

The Court: Sustained.

Q. (By Mr. Seofield): Did either of these gentlemen ever tell you why they quit the purchase of Weatherford centralizers?

* * *

A. Mr. McClosky said that he understood—Mr. McClosky said that they understood that Wright's patents covered all scratching or mud cake removing elements used in cementing? [2955]

* * *

KENNETH A. WRIGHT

one of the defendants herein, recalled as a witness on behalf of the defendants, having been previously duly sworn, was examined and testified further as follows:

Direct Examination

By Mr. L. E. Lyon:

Q. Mr. Wright, will you state your experience? You have heretofore testified in this matter, I believe. A. I have.

Q. You are the vice-president of B and W, Inc., is that correct? A. I am.

Q. And you and Mr. Barkis together formulated B and W, Inc.?

A. That is correct. [2998]

Q. What is your experience and education in oil production development, Mr. Wright?

A. I am a graduate of the Department of Geology, Stanford University, class of 1921, and I am a registered professional engineer, petroleum engineering section, State of California.

I have been working in the oil industry since my graduation in June of 1921 as a geologist and petroleum engineer and drilling superintendent, and prior to that I had at times during my academic life worked in the oil fields in capacities such as what are known as a roughneck and rig helper.

Q. By what oil companies have you been employed, Mr. Wright?

A. The Tidewater Associated Oil Company. That name was the Associated Oil Company, subse-

(Testimony of Kenneth A. Wright.)

quently and now Tidewater Associated Oil Company.

The Pan-American Petroleum Company, and an affiliate known as the Petroleum Securities Company; for the Trinidad Leaseholds Company in Trinidad, British West Indies; and Young Petroleum Corporation in Southern California, and Standard Oil Company of Australia, in Australia that is, and private consulting work, and that is the total of the list I can recollect at this time.

Q. Have you made any particular study and done any work over that period of time with respect to well completions? [2999] A. I have.

Q. For what companies?

A. The petroleum engineering work and drilling superintendent's work that has occupied my time is directly related to the so-called well-completion part of the drilling of an oil well.

Q. By whom were you employed in the year 1939?

A. I was working for the Young Petroleum Corporation part time, and part time on consulting work, aside from my duties with Young Petroleum Corporation.

Q. Had you in 1939 or prior thereto been employed in any company with or worked with Mr. Bruce Barkis? A. I had.

Q. When did you contact Mr. Barkis in 1939, if at all?

A. I believe I contacted Mr. Barkis about February, 1939?

(Testimony of Kenneth A. Wright.)

Q. Where?

A. At his house in Long Beach, California.

Q. Was Mr. Barkis employed at that time?

A. I don't think he was. That is my present recollection.

Q. Did you and Mr. Barkis, when you were employed together, encounter any common problem with respect to well completions?

A. Yes. [3000]

Q. What was that problem?

A. The failure of cementations and the failure of wells to be as productive as might be estimated or expected.

Q. In your experience in Trinidad and Australia and in the oil fields in this country, was that a common problem existing over the fields of your experience?

A. If you will exclude Australia, I will be able to answer, because I did not drill any wells there.

Q. All right, excluding Australia.

A. May I now have the question?

(Question read as follows:

("In your experience in Trinidad and in the oil fields in this country, was that a common problem existing over the fields of your experience?")

Mr. Scofield: We will stipulate that, your Honor.

The Witness: That is a common——

(Testimony of Kenneth A. Wright.)

Mr. L. E. Lyon: I accept the stipulation.

The Witness: Am I supposed to answer, your Honor?

The Court: There is no need to answer now.

Q. (By Mr. L. E. Lyon): Now, what was that particular problem, Mr. Wright, of well completion that has been stipulated to, that was common over the oil fields?

A. As I previously stated, the failure of cementations, that is, in the cementing of the well we found that there was some part of it faulty, and in the productivity of [3001] wells based upon conclusions and observations in a given area.

Q. I believe, Mr. Wright, that you have prepared a small chart of three figures which you might use in explaining that problem. Will you take that chart and explain the problem, if it is possible from that chart, as to just what this problem was?

I will ask that this be marked for identification Exhibit FT.

Mr. Scofield: What is the number?

Mr. L. E. Lyon: FT.

(The chart referred to was marked Defendants' Exhibit FT for identification.)

Mr. L. E. Lyon: Here is a copy of it. You can mark that for the court.

Q. I place before you Exhibit FT for identification and will ask that you explain this recurrent problem in the industry, in well completions, if you can, from Exhibit FT.

(Testimony of Kenneth A. Wright.)

A. FT, is that what this is?

Q. Yes.

A. This Exhibit FT before me, and pointing to the illustration on the left-hand side which is called A-1, illustrates a typical problem as is found in the State of California wherein the general practice is to set casing over an oil sand and thereafter demonstrate to the [3002] industry—correction—I mean demonstrate to the Division of Oil and Gas that you have effectively made a seal, and are given permission to proceed drilling into the oil sand and make the completion of the well.

Q. Now, Mr. Wright, in your statement with respect of a well, will you just take this pen and mark on there what is the casing, the different parts of this diagram? I believe it was prepared by you, was it not?

A. It was prepared under my instructions.

Q. All right. Now, will you just mark on there each of the components of this Figure A-1 and what it is intended to illustrate, in each particular? Let us assume that, for the purpose of this record, nobody here saw an oil well before.

A. "A" designates casing of the well.

Q. Now, that casing is what? That is a piece of pipe, is it not?

A. Yes, sir, a piece of casing which is a tubular member.

Q. Made of steel?

A. Usually made of steel, and is that part which is set into the well to permit fluid to be taken from

(Testimony of Kenneth A. Wright.)

the well to a point where the shoe in this case is positioned.

Q. Now, what is the shoe? Just mark on there. You have used the word "shoe." Just mark what is the shoe. [3003]

A. Well, "B" is the shoe, and if you will permit me, Mr. Lyon—I did not write anything—is it your request that I write "A" as casing?

Q. Yes.

A. Now, I will follow that by "B, casing shoe."

Q. Now, in this illustration of 1 you have indicated a certain structure which you have called shale. Now, what is shale?

A. Well, Mr. Lyon, that is a very, very broad question.

Q. Let us just strike that for a minute, and answer this question: Exhibit A-1 is intended to be a cross-sectional profile of an oil well, is that correct?

A. That is correct.

Mr. Scofield: I would prefer to have the witness testify with regard to this, your Honor, and not counsel telling him what it is and just asking him, "is that right?"

Q. (By Mr. L. E. Lyon): Now, just what is that profile made up of?

A. This profile section, vertical section, is intended to illustrate what is termed here as shale, and that in this sense is a very broad word. It is intended to mean the impervious section of the well.

Q. Now, just a moment. "Impervious" is what?

(Testimony of Kenneth A. Wright.)

A. Impervious to filtration of fluids into it, or withdrawing of fluids from it, even though we have a [3004] substantial pressure reduction.

The Court: Is it impervious to penetration of gases?

The Witness: That is true, your Honor.

The Court: In other words, whatever formation there is there, it would be impervious to any flow of gas or liquid, is that it?

The Witness: That is correct, your Honor. And if I may go just a point further, that does not mean it does not have porosity, though. The shale is actually composed of parts, and there is porosity even though there is not permeability within the pressures.

The Court: Will gas get through it? That is the question.

The Witness: No, your Honor.

The Court: Not because of the solidity of the formation entirely but because of the balancing of the pressures?

The Witness: We have reduced the permeability to the point where under the pressures present there can be no flow and the water stays in place and the oil stays in place, as is intended. [3005]

Q. (By Mr. L. E. Lyon): The next portion of that profile indicates what? And I am talking about the portion A-1 of Exhibit FT for identification.

A. The next illustrates water-sand, and water is addressed to the fluid content in the interstitial

(Testimony of Kenneth A. Wright.)

tubes and cavities and the sand, of course, refers to the solids.

Q. Now, that material, is that sand which you have indicated, water-sand there, is that impervious or is that pervious?

A. The water-sand is pervious.

Q. Meaning?

A. Meaning that fluid will flow into it or out of it. If you create a pressure balance in either of the two directions required or desired.

Q. And by "fluid" you mean either liquid or gas?

A. That is correct.

Q. All right. Now, proceed to the next section of the profile.

A. The next section below is termed "shale" again and is indicated to be an impervious section the same as that positioned above the water-sand and, to all practical purposes of the well, could be identical or have differences so minute it would make no difference.

Q. With respect to illustration A-1 of Exhibit FT you were explaining from that exhibit the requirements for [3006] testing what—water shut-off?

A. This illustration here, A-1 and A-2, illustrates the procedures required in any oil field of the world, California being a typical one, to demonstrate that in the setting of the casing you have a seal at the point B in this particular instance, so as when you complete the well by penetrating the oil sand below that, no water from the water-sand indicated above the lowermost shale will have access to the well or

(Testimony of Kenneth A. Wright.)

be produced with the oil from the oil sand indicated here on the bottom of this illustration.

Q. How in accordance with these requirements was it intended or thought that a water shut-off or fluid shut-off would be obtained, Mr. Wright?

A. The most common method is to mix cement with water into what is termed a slurry, a slurry being a fluid. It is pumped into the casing from the top, after having been mixed, to correct water cement ratio, and pumped down the well, down the casing, that is, and upwardly in the annulus between the casing and the wall of the well.

Q. In accordance with the illustration, Exhibit A-1, where is the cement? Is it indicated there?

A. C is indicated—C indicates the cement and it also indicates what is the area above the turbulent flow section of what takes place during the period of the cementation. [3007]

Q. All right. Now, what is D?

A. D is the area above the turbulent flow section in which channeling takes place; and I mean by that the cement slurry rising upwardly does not displace all of the mud fluid ahead of it or upwardly and ahead of it, and the area in which no filter cake would be removed by the ascending cement slurry.

Q. Using A-1 and A-2—and I believe you have a full description of those figures—they are both the same in that respect, will you tell me how these figures, if at all, are indicative of the problem which has been stipulated to have existed in oil wells with respect to well completions, Mr. Wright?

(Testimony of Kenneth A. Wright.)

A. Would you repeat that question, please?

Q. The question is: How do these two figures illustrate, or do they illustrate the problem of well completions which you had encountered in your experience? A. Well, taking——

Q. And you have to take the A-3 along with it. If you do, take illustration A-3 also, Mr. Wright.

Mr. Scofield: There is no A-3 on it.

Mr. L. E. Lyon: A-3.

The Witness: It is called "B."

Mr. L. E. Lyon: Oh, pardon me, pardon me.

A. Referring to illustration A-2 you will find below [3008] the casing shoe a short section of hole which terminates in the shale. That is the condition of the well at the time the test was made, and the demonstration of the effectiveness of a seal is actually from the drilled hole below, stopping short of the oil sand, as related to the water in the sand positioned above. There is no demonstration of the effectiveness of the seal in the vertical section throughout the oil sand. It is only is there a seal or ring of cement existing as a collar around the casing in the annular section somewhere above the shoe or above the extended hole below.

Now, I might add at this time, and I think it is advisable, that an operator having a well in the condition of A-2 would then drill more hole through the casing to the ultimate depth and complete it in some manner that best suited his ideas of how to complete it.

(Testimony of Kenneth A. Wright.)

Q. That is, he would drill right through that shoe B which you have indicated, Mr. Wright?

A. That is correct. The ball and check arrangement indicated in A-1 is a drillable arrangement, the ball being usually of a specific gravity which will float on the mud fluid or water and the check or seal in the shoe is obtained in that manner. The internal section is made of plastic or cement so it is drillable.

Mr. Scofield: Hasn't the shoe B been drilled in A-2?

The Witness: Yes, that is right. [3009]

Mr. L. E. Lyon: That is what he was just testifying to.

Mr. Scofield: I didn't understand that.

Mr. L. E. Lyon: Go ahead.

A. Now, if I understand your question——

Q. Just before we go to illustrate B on here, were the operations of A-1 and A-2 which were required to determine that you had a water shut-off before you were permitted to drill into the oil sands in illustrations like Exhibits A-1 and A-2, is that correct?

A. That is correct. That is what I testified.

Q. All right. Now, proceed with illustration B of Exhibit FT.

A. Following the practice exemplified by Exhibits or Illustrations A-1 and A-2 of this exhibit—and it is FT—we find a condition illustrated by the illustration B where a gas sand is positioned above the oil sand and above the lowermost shale, and the operator could under that condition elect to cement

(Testimony of Kenneth A. Wright.)

the casing and set the casing, let us say, at position in the shale between the water sand and gas sand, and then carry out the operation as indicated or illustrated in A-2.

But in the event that he did not want to in the subsequent completion commingle the gas from the indicated sand from the oil sand below, he would request permission to [3010] locate the casing shoe as indicated in B, and thereafter in that manner place behind the casing a gas sand and, of course, the water sand and then proceed after making a demonstration of the effectiveness of cementation, proceed with the drilling below the shoe, as indicated in B-2, for completion.

Q. A-2?

A. A-2, correction. In that condition the Division of Oil & Gas would give their permission, with the requirement that a demonstration be made of the effectiveness of the cementation in the vertical section so as to isolate into their respective strata the water sand and the gas sand, and that requires a different procedure for making the determination or, let us call it, carrying out the test.

It is during the illustration such as B that is found out the cementation in the vertical section above the shoe, casing shoe that is, is found to be faulty and the well would not produce gas exclusive of water, and so squeeze operations—and, I mean by that, squeeze cementing—was the remedy which the industry accepted as the method for fulfilling the iso-

(Testimony of Kenneth A. Wright.)

lation requirement required or determined by the Division of Oil & Gas.

Mr. Scofield: Pardon me, Mr. Lyon. Is the showing in B supposed to indicate a faulty cementation?

The Witness: It is not. No, it is not. I don't understand [3011] your question, so you will have to clarify it.

Mr. Scofield: Pardon me, Mr. Lyon. But I understood from your last answer, Mr. Wright, that the cementation shown in B, which is around the shoe at the bottom of the casing, was faulty cementation. Am I right in that?

Mr. L. E. Lyon: I think that if you had listened, you would not have gotten such an idea. And I think that you should refrain until cross-examination, without interrupting the witness at this time.

Mr. Scofield: Very well.

Mr. L. E. Lyon: And I would so request.

The Court: Proceed.

The Witness: May I have the question?

Q. (By Mr. L. E. Lyon): You used the term "squeeze cementing" which has been used here several times. Will you tell me what that is?

A. Squeeze cementing—

Q. And show how it would be applicable, if at all, to this illustration B of Exhibit FT for identification under the problems that you have just stated.

The Witness: May I answer them one at a time, Mr. Lyon?

Mr. L. E. Lyon: Yes.

(Testimony of Kenneth A. Wright.)

A. Squeeze cementing, first of all, contemplates cementing where you do not have circulation. I mean by that if you are able to circulate fluid down the casing or by [3012] setting a tool within the casing such as a packer or squeeze tool, and if you could obtain circulation, why, that, technically, would not be squeeze cementing; and it is not uncommon to have wells where, on attempting to do squeeze cementing, you actually do get circulation returns, as we call it. And so, on a strict sense, that would not be a squeeze job. That would be a recementing operation as distinguished from squeeze.

Squeeze cementing is where you pump cement into the well and the point of discharge or ultimate point where the cement will become positioned or located is unknown to you. You simply have a seal system on the discharge side and you have an intake point on that side, so by arrangement of packers and tubing, you simply just force liquid, cement slurry, either down or out around the shoe, like could be done in A-2, or out through perforations which would be put in it or had been put in it—correction—into the casing in the illustration B. And I will carry on this to the extent, as for example, if an operator had desired to produce gas from the sand indicated there, and upon perforating opposite that gas sand he got in his flow as the liquid coming from the well, was water and gas, and his previous determinations had been that he should produce gas free from water, he would resort to squeeze cementing.

(Testimony of Kenneth A. Wright.)

Q. Now, let me just get this straight. You say that [3013] he would perforate. What would he perforate?

A. Perforate means to place or make hole in the casing which has been set in the well.

Q. You have stated an example here if he wanted to produce the gas from the gas sand and he found out he was getting both water and gas, is that right?

A. That is correct.

Q. Now, he would perforate, then. Where would he perforate?

A. In this illustration he would perforate all or a part of that vertical section which is indicated as gas sand.

Q. He would perforate the casing A there and through whatever cement there was there. Is that cement?

A. The perforating tool is lowered down inside the casing to the desired point, and if we are describing a gun perforator, then it is lowered in usually on a conduit and line, although they are run on tubing as well, position the gun, perforating gun opposite the gas sand, and by closing the circulating actually makes holes through the casing, through any cement that might be existing, through the outside of the casing and the wall of the well and so on into the sand itself.

Q. Then he would do what?

A. Following that he would put the well on production.

(Testimony of Kenneth A. Wright.)

Q. Well, now, and then if he found gas and water? [3014]

A. He must put the well on production to determine what comes out of the well.

Q. All right.

A. Then, from then he would determine what flowed from the well and if it was gas free of water, or water without gas, he makes the determination.

Q. Yes, all right.

A. And then, as I say, he correlates that back to his information previously gained or attempted by him that, in his determination, that was gas sand and he should be able to produce water free of gas.

Q. Then what would he do?

A. As I said, if he in his mind had concluded that there was dry gas available in that sand, and he got water with it, then he knows that he has had a failure of cementation for some reason and must resort to remedial operations.

Q. And when he used squeeze cementing for that remedial operation, just explain what would happen.

A. Assuming the perforations placed in the casing opposite the gas sand, he would then position a squeeze tool in the area on the casing directly above it and carry out what we call squeeze operation. And there are catalogues here in evidence of Baker and Halliburton where the squeeze tools common to the industry are illustrated. Do you wish to put them in evidence? [3015]

Q. Now, is that squeeze operation in effect fore-

(Testimony of Kenneth A. Wright.)

ing the hydraulics from the fluid through the perforation——

Mr. Scofield: I object. Let the witness testify as to this.

The Court: Objection overruled. Don't interrupt.

Q. (By Mr. L. E. Lyon): ——through the perforation under pressure, that cement as it goes through the perforations that we previously got in the cement casing and sealing off the gas, and let that fluid under pressure go where it might find a fluid passage?

A. This is a hydraulic system and it reacts entirely to fluid flow, and the point of escape is the direction in which it will flow.

Q. What are you seeking to do by that squeeze cementing, then?

A. The squeeze operation is just pumping the cement slurry into this annular space without knowledge of its limit of travel or the area under which it will become effective. There is no guarantee whatsoever that it by one squeeze probably will be effective or perhaps fifteen.

The Court: And your objective, I take it, is to cement off the water from the sand above the gas sand, as shown in the exhibit on Figure "B"?

The Witness: What we would like to get, your Honor, is to have a seal, and what I mean by that is have a complete [3016] annular column of cement throughout the vertical section of the gas sand, and that will do the job and that is all that is required.

(Testimony of Kenneth A. Wright.)

The Court: You mean you would perforate your well then and put your well on gas production?

The Witness: On gas production, that is right.

Q. (By Mr. L. E. Lyon): Now, when you wanted to get this separation of recovery from different portions of the well and there was a cementing failure prior to or in this period of 1939, was there any other method known of making a separation of the strata setup to avoid intermingling of the gas, oil, and water from different strata, Mr. Wright, where you had a cement failure, was there any other way, other than by squeezing cement, was there any other way known? A. Not that I know of.

Q. When you found this multiple-sand condition, the only way prior to 1939, of being sure of getting a separate production was to resort to squeeze cementing, is that correct? A. That is correct.

Q. All right. Now, you have testified that you met Mr. Barkis sometime in February, 1939. Did you discuss this problem of separate production from different strata of sand with Mr. Barkis at that time? A. I did. [3017]

Q. And what did you discuss?

A. Pardon me. I believe I saw Mr. Barkis about March. For one month's difference there, I just don't recall. Now, may I have your question again?

Q. It was March, then, instead of February?

A. It was March.

Q. That is the correction you wanted to make?

A. That is correct.

(Testimony of Kenneth A. Wright.)

Q. Now, what did you discuss with Mr. Barkis at that time?

A. I asked Mr. Barkis what was his opinion of placing abrading devices on the casing throughout the section where permeable strata in the well existed, for the purpose of removing the filter cake during the period of the setting of the casing.

Q. And what was Mr. Barkis' reaction to that suggestion, if any?

A. Mr. Barkis thought it was an excellent idea and had merit.

Q. And did you do anything after that discussion?

A. As a result of that discussion, Mr. Barkis and I formed B and W to exploit that basic idea.

Q. And B and W was formed when?

A. In the latter part of June, 1939.

Q. And following the formation of the corporation what, [3018] if anything, did you do to carry forward that problem—I mean that project?

A. The first thing that was done, I contacted a patent attorney here in the City of Los Angeles, by the name of James Abbott, and made preparation for an application for a patent and started in thereafter to design tools or devices which would carry out this idea which I disclosed to Mr. Barkis.

Q. Now, you have testified that you made preparations to file an application for patent. I place before you a copy of Plaintiff's Exhibit No. 31 and ask you what relation, if any, that patent has to

(Testimony of Kenneth A. Wright.)

your testimony just given, and Exhibit No. 31 is the Wright patent No. 2,338,372.

A. Is there a question before me?

(Pending question read.)

A. That is the patent which I made application before by consulting with Mr. James M. Abbott, the patent attorney, and subsequently issued January 4, 1944.

Mr. Scofield: Is that the '372 patent?

Mr. L. E. Lyon: Yes.

Mr. Scofield: I don't believe that is the exhibit number.

Mr. L. E. Lyon: Exhibit 31.

Mr. Scofield: I believe it is No. 37.

The Witness: No. 37. [3019]

Mr. L. E. Lyon: Pardon me. That is 37. My error. All right.

Q. Now, this patent, Exhibit 37, you state is directed to, as you understand it, a method?

A. That is correct. [3020]

Q. Now, what is that method, Mr. Wright?

Mr. Scofield: The patent itself is the best evidence, your Honor.

The Court: Do you mean that you wish to have him describe it in detail or just generally?

Mr. L. E. Lyon: Describe it generally and in detail, your Honor, giving this Court the benefit of the inventor's explanation of the method patent which is in suit. If your Honor deems the matter self-explanatory, there is no need of it.

(Testimony of Kenneth A. Wright.)

The Court: Unless the language in the Letters Patent is ambiguous, that would be the best evidence, wouldn't it?

Mr. L. E. Lyon: It is not seeking to alter, modify or change it in any way. It is merely to give the Court the explanation of the patent in suit.

The Court: He might state generally what the method is, give us a short answer or a thumbnail description of it.

Q. (By Mr. L. E. Lyon): Will you do as the Court has requested, Mr. Wright?

A. This patent is addressed to the basic premise that there is filter cake on the permeable sections of the well that is drilled.

The Court: The filter cake forms and adheres to the formation, is that it? [3021]

The Witness: The filter cake—may I answer it in this way—is a product of actual deposition of the solids in the drilling mud on the face of the permeable section, and it is identical and it is——

The Court: By “permeable section,” you refer to the formation?

The Witness: I speak of the permeable section as being that part of the well which would—which can possibly contain the material for which you are seeking to drill the well. Now, I do not mean that you drill the well between water, although it is possible to drill wells for water, and could be carried out in the same manner.

I am addressing the remark——

(Testimony of Kenneth A. Wright.)

The Court: It is what you call a formation, is it not?

The Witness: Well, your Honor, if I may put it this way, the shales are impermeable as far as deposition of filter cake thereon. That does not mean if you had sufficient pressure and isolated it into a test section you might not have some minute filtration into it, but as far as this well that we are drilling here is concerned, while it still has porosity, the permeability is so low that there is no filtration or separation of the fluids from the products of the well drilling.

The Court: That cake will not adhere to it, then?

The Witness: If you put it that close together, into [3022] pretty fine physical chemical problems, because there might be one molecular cake.

The Court: But generally speaking?

The Witness: Generally speaking, there is no filter cake on the shales because they are so impermeable, no fluid moves into them. It simulates in effect the laboratory work of a chemist, like putting filter cake in a glass funnel and separating the filtrates. In that case we don't have porosity. We have a colloidal material in suspension in the drilling fluid, assuming a water base mud. I do not mean to carry this thing on indefinitely because we have oil base mud, too. With a filtration we have a separation of filter cake and filtrate.

Q. (By Mr. L. E. Lyon): What his Honor is after there, Mr. Wright, is that the filtrate or the filter cake forms from the drilling mud on the face

(Testimony of Kenneth A. Wright.)

of that portion of the well which, for example, you have shown in Exhibit F'T as being the water sand, the gas sand and the oil sand.

A. That is right.

Q. As differentiated from that structure which you have said is impermeable and has defined as shale?

A. That is correct.

Q. Is that what his Honor was after?

A. That is correct. Now, with that explanation, and having knowledge that the ascending cement slurry would do [3023] two things, it would not completely displace all the mud ahead of it, that is, that arose in the annulus and that the filter cake would not be scoured off by the ascending cement slurry, that is, it would still remain there so that when you completed the cementing operation of pumping this cement slurry down the casing and upward in the annulus, even though as illustrated as in A-1 and A-2 there is demonstrated an effective seal under those conditions.

Upon examination here by perforating the gas sand in B we did not find cementation. That is, it was faulty. Now, coupled with that is the fact that the colloidal material in the drilling fluid, assuming it is drilling fluid of the water base type, can make limited and very limited penetration into the sand itself. That is, some particles are small enough under those conditions to make, you might say, a minute penetration into the interstitial tubes of the cavities. How far that goes is a matter of considerable debate and it will depend upon the permea-

(Testimony of Kenneth A. Wright.)

bility of the particular sand, the partical size of the sand. If it was a large gravel, for instance, it might go over many feet. That is not to say that we find oil residue like that, but, that illustrates it.

So that there is slight penetration and deposition of the colloidal material in the face of the permeable strata, and what I mean by that, the gas sands and the oil sands [3024] which are the objective part of the drilling of the well. So to that extent we have a similar face upon which to place the cement seal and I do not mean identical, but partially so, so that if you take the gas sand there, or the oil sand, and permit a filter cake to deposit upon it, you have this minute penetration.

Do I make my point clear?

Mr. Scofield: Just a moment. Your Honor, I move that that answer be stricken first as nonresponsive to the question to give a thumbnail description or explanation of the patent, and second, that it is entirely in conflict with the disclosure of the patent itself. There is no disclosure in this method patent of anything that he has said about these permeabilities and the deposit of mud cake on the permeable sands and impermeable sands, such as he has described in this answer. I move it be stricken.

The Court: Motion denied.

Q. (By Mr. L. E. Lyon): Proceed, Mr. Wright. I believe we had interrupted your explanation with a statement of where the mud was deposited and

(Testimony of Kenneth A. Wright.)

what you meant by filter cake. Will you proceed with your explanation of the patent, Exhibit 37?

A. Well, I will just read this——

Mr. Scofield: I want his answer restricted, if your Honor please, to a thumbnail description, as you have [3025] indicated. Now, the patent itself we have here. We have not only the patent in evidence, we have the complete file history in evidence. So that I think that any description or any statement as to what this patent stands for is entirely out of place.

The Court: It is probably incompetent.

Mr. Scofield: That is right.

The Court: I just wanted for my general information what he says. We will treat it as the argument made by Mr. Lyon through the mouth of Mr. Wright.

The Witness: Well, if I may, with your permission, read the start of the second paragraph——

The Court: I did not want that. I just thought you could tell me, very briefly, what the method is. That may be an unfair question, to you.

Mr. L. E. Lyon: No. That is all right. I think he can answer that question, your Honor.

The Court: I think I understand what the problem is, now.

Mr. L. E. Lyon: All right.

The Court: So, how does this method solve it? What is your method of solving it, the general method?

(Testimony of Kenneth A. Wright.)

The Witness: The answer to it according to my patent is to put abrading devices on the casing and abrade the wall of the well. In this patent I state here in the third line [3026] of the second paragraph, "In the producing area"—

The Court: In other words, you would not want to waste any time abrading the shale unless you abraded the sand you wish to produce from?

The Witness: The producing section for the permeable strata.

The Court: Would you also abrade the sand which you wish to cement off?

The Witness: That is the section.

The Court: In other words, you might abrade the water sand, the gas sand and the oil sand, is that correct?

The Witness: Those are all potential producing sections of the well.

The Court: And your method would apply equally to each of those sands, is that true?

The Witness: That is correct.

Q. (By Mr. L. E. Lyon: While you are abrading, what do you do?

A. The abrading can be carried out by placing these abrading devices on a casing and either by rotating the casing or reciprocating it, and during that period abrade and change over to the fluid, the succeeding fluid.

Q. What do you mean by the succeeding fluid?

A. Well, usually in setting the casing there are

(Testimony of Kenneth A. Wright.)

the changes from the drilling fluid to the cement slurry [3027] fluid.

The Court: It is an attempt by abrading to accomplish what the welder accomplishes, by mudlogging when making a well, is that it?

The Witness: Not quite. During abrasion we remove the filter cake which has been accumulated there by the process of filtration and carry on the abrading to get into this first thin skin, shall I say into the face of the sand itself, the permeable or the producing section. [3028]

The Court: You hope to achieve a well between the sand and the cement, is that it?

The Witness: To permit the cement slurry to have direct contact with the producing section of the sand.

The Court: And to be mixed in with it to some extent, isn't that true?

The Witness: Not mixed in with it, your Honor. We achieve a clean line or have a face of cement firmly contacted against the sand itself.

The Court: You abrade the surface of the sand so as to give a clean bond?

The Witness: A clean bond.

The Court: A clean bond.

The Witness: A clean bond, that is it.

The Court: A clean bond, and also I take it to provide some surface for the cement to adhere to?

The Witness: That is correct. That is all in the one operation.

(Testimony of Kenneth A. Wright.)

Q. (By Mr. L. E. Lyon): Now, won't cement bond to mud, to rotary mud or to the filtrate?

A. That is a very, very—I would say yes, it does, to a degree sufficient to make seal for pressure differentials which occur in many, many wells.

The Court: Would it be fair to say that the difference between the wall before the use of your process and afterward [3029] would be the difference between a smooth surface and a rough surface when it comes to causing something to adhere?

The Witness: That is roughly so, your Honor, but not quite.

The Court: I did not mean that it would have to be scientifically so, but is that generally what you are attempting to achieve?

The Witness: We are attempting to have a complete annular fill in this, the area through which the bit is passed, and it is an irregular profile in the vertical section and it is an irregular section in the plan section, to a certain extent. We cannot, as you well realize, get down in these holes to make all the observations we would like to make.

The Court: But in the common language of a layman, you want to scratch off that mud cake and provide a rough surface?

The Witness: A clean bond.

The Court: For the cement to make a clean bond?

The Witness: That is correct, a clean bond, which I think is the best—— [3030]

(Testimony of Kenneth A. Wright.)

The Court: Is this a good point at which to interrupt the examination?

Mr. L. E. Lyon: Just one question.

Q. Does an abrading of the productive sands have anything to do with the flow characteristics of that sand?

A. It is possible, as I have previously stated, to have this material actually flow to a limited depth into the interstices, cavities or tubes and be positioned there and be returned for flow coming from the sand into the well so as to give us a plugging action.

The Court: That is the mud cake?

The Witness: That is, the material becomes lodged in the interstices or tubes and cavities.

The Court: After the cementation process has been completed then it is necessary to perforate to bring in the well?

The Witness: Then we perforate the casing, your Honor. It passes through the casing, through the cement, any mud that might be left as filter cake at that time, and on right into the sand itself, and that is the gun-perforated hole.

And let me say this before it gets too far afield: that we have had mechanical perforators which would do this work for many, many years, but their adaptability to this problem is very, very limited. So the gun perforator pushed the mechanical perforator into oblivion. [3031]

* * *

EUGENE L. DAVIS

called as a witness by defendants, being first sworn,
was examined and testified as follows:

The Clerk: Will you state your name, please?

The Witness: Eugene L. Davis.

Direct Examination

By Mr. L. E. Lyon:

Q. What is your occupation, Mr. Davis?

A. I am a professional engineer.

Q. Engaged in any particular line of engineering work?

A. Rather general; petroleum engineering and geology.

Q. What has been your training as an engineer?

A. Well, I am a graduate in geology from Stanford. I was with several oil companies as a petroleum engineer and geologist. I was with the Texas Company for 15 years; Smiley Oil for two years; and Santa Fe Railroad Company for [3035] two years.

Q. In 1939 and 1940 with what company were you? A. I was with the Texas Company.

Q. In what capacity?

A. District engineer.

Q. Where? A. Southern California.

Q. What were your duties with the Texas Company at that time?

A. I was responsible for their planning and programming of drilling and production operations in proved fields.

(Testimony of Eugene L. Davis.)

Q. Was there any particular problem in the drilling and production of oil wells which you recall in the years 1939 and 1940?

A. Well, at that time we were very much concerned and the industry itself was very much concerned particularly with the cementing problems in oil wells.

Q. Do you recall anything that was done during those years with respect to that problem?

A. Well, the most important development during that period was the researches of Jones and Berdine of the Union Oil Company.

Q. Were you acquainted with Mr. Jones?

A. Yes.

Q. And Mr. Berdine? [3036]

A. I have met him. I know Mr. Jones very well.

Q. Jones and Berdine were operating with the Union Oil Company, were they? A. Yes.

Q. Did the A.P.I. have a standing committee at that time on oil completion problems?

A. Yes, there was a committee of drilling and production practice, a subcommittee of the Pacific Coast section.

Q. And that committee met regularly, did it?

A. Yes.

Q. Where?

A. At the Los Angeles Athletic Club.

Q. About how many people attended those meetings?

A. Anywhere from a couple of dozen to 150.

Q. Did this work of Jones and Berdine for the

(Testimony of Eugene L. Davis.)

Union Oil Company come to the attention of that committee? A. Yes, it did.

Q. Do you recall when?

A. Well, it was in the winter of 1939-40.

Q. A report was subsequently given to the A.P.I. at the Biltmore Hotel on March 19, 1940. That report is in evidence as Exhibit X—I mean a copy of it as Exhibit X. Was it before or after the A.P.I. meeting on March 19, 1940, that the matter came to the attention of the committee which you named of drilling and—— [3037]

A. And production practice. It was before that meeting.

Q. Before that meeting? A. Yes.

Q. Was a report made by Jones and Berdine to that meeting?

A. Yes, Mr. Jones made an informal report to that committee.

Q. Did you have any discussions with Mr. Jones besides the report that he gave?

A. Yes, I talked to him several times personally.

Q. Did Mr. Jones inform you as to what the Union Oil Company was going to do at that time?

A. Yes.

Q. What did he tell you?

A. Well, that they were convinced of the validity of their findings in these researches and would adopt those practices which he indicated of cleaning the formation.

Q. As a result of Mr. Jones' presentation of this matter to this committee and your talks with

(Testimony of Eugene L. Davis.)

him did you make any recommendations to the Texas Company? A. Yes, I did.

Q. What were your recommendations?

A. I recommended that we adopt his practice in the cementing of oil wells.

Q. Was that recommendation followed? [3038]

A. Yes, it was.

Q. Did the Texas Company make purchases of scratchers? A. Yes.

Q. Before the A.P.I. meeting? A. Yes.

Q. From whom? A. B & W.

Q. Did they place those scratchers in operation?

A. Yes.

Q. In accordance with what procedure?

A. In the cementing of the water string.

Q. Did that procedure or did not that procedure follow that recommended by Mr. Jones?

A. Yes, it did.

Q. I believe that you were present at the March 19, 1940, meeting of the A.P.I. at the Biltmore Hotel, were you not? A. Yes.

Q. And you entered into a discussion after Jones read his paper, did you not? A. Yes.

Mr. Scofield: Is that Exhibit X?

Mr. L. E. Lyon: That is not X. This would be X, probably, -1 would be a good way to put it.

The Clerk: I think we have an X-1. [3039]

Mr. L. E. Lyon: Have you? Well, then, let us have an X-2.

(Testimony of Eugene L. Davis.)

Mr. Scofield: Won't you state, Mr. Lyon, how that differs from X?

Mr. L. E. Lyon: Yes, I will. I will state on the record just as soon as I get it marked.

Mr. Scofield: Yes.

Mr. L. E. Lyon: I would like to have pages 62 and 63 of the 1940 publication of the Drilling and Production Practice of the American Petroleum Institute, 1940 volume, marked as Exhibit X-2. I will take them off from this photostat here which is merely a reprint of the Jones and Berdine article. We have got it in enough. I don't see any reason for doing it again.

The Court: It will be so marked.

(The document referred to was marked Defendants' Exhibit X-2 for identification.)

Q. (By Mr. L. E. Lyon): Now, these pages are the discussions, the publications of the discussions, had following the presentation of the Jones and Berdine report at the A.P.I. meeting on March 19, 1940.

Can that be stipulated?

Mr. Scofield: Yes, sir.

Q. In the discussions given on X-2, at the bottom of page 62 and top of page 63, is a notation "E. L. Davis, the Texas Company, Long Beach, California." Does that [3040] refer to you?

A. Yes, it does.

Q. That gives the summary of the discussion that you had at that time following the reading of

(Testimony of Eugene L. Davis.)

or the giving by Jones of his report at that meeting?
A. Yes. [3041]

Mr. L. E. Lyon: I will offer in evidence as the Defendants' Exhibit X-2 the pages heretofore marked for identification as Exhibit X-2.

Mr. Scofield: No objection.

The Court: Received in evidence.

(The pages referred to, marked Defendants' Exhibit X-2, were received in evidence.)

Q. (By Mr. L. E. Lyon): Mr. Jones discussed with you the procedure which was followed at Dominguez Hill in making the tests reported in his report given to the A.P.I. meeting, is that correct?

A. Yes, he did.

Q. That procedure involved the deposition of the filter cake from the drilling mud on a canvas bag, did it not?
A. That is correct.

Q. Was that in accordance with recognized drilling-mud-testing procedure?

A. That is similar to it, yes.

Q. The tests that were made by Jones and reported at the A.P.I. meeting, were they received by the industry and accepted as a satisfactory test, to your knowledge?

Mr. Scofield: That is objected to as calling for a conclusion, your Honor. That is, this witness can testify as far as he is concerned, but speaking for the industry I [3042] don't think he is qualified.

The Court: Sustained.

(Testimony of Eugene L. Davis.)

Q. (By Mr. L. E. Lyon): Were the tests reported by Mr. Jones accepted by the Texas Company as a satisfactory demonstration of the use of scratchers in cementing procedure?

A. Yes, they were.

Q. And did the Texas Company adopt and utilize the procedure as outlined by Mr. Jones, in the actual cementing of oil wells? A. Yes.

Q. Has it continued to use that procedure in practice until today, to your knowledge?

A. Well, I haven't been with them for some years, but they did as long as I was with them.

Q. How long have you been away from them?

A. I left them in 1941.

Q. In 1941? A. Yes.

Q. Are you familiar with oil-field practices?

A. Yes.

Q. Are you doing now consulting work?

A. Yes.

Q. In your consulting work, are you generally familiar with the practices used in cementing?

A. I am. However, I should say that I just started, [3043] so far as Southern California is concerned.

Q. All right. You were located where?

A. In Canada the last year and a half.

Mr. Scofield: I didn't get that.

The Witness: In Canada the last year and a half.

(Testimony of Eugene L. Davis.)

Q. (By Mr. L. E. Lyon): In Canada in the last year and a half, to your knowledge, is the practice outlined by Jones and Berdine in their report being followed? A. It was.

Mr. Scofield: I object to that as calling for conclusion, your Honor.

The Court: Sustained.

Q. (By Mr. L. E. Lyon): Are you familiar with the practices followed in Canada, in cementing? A. Of some companies, yes.

Q. What companies?

A. Well, I was with the National Petroleum of Canada.

Q. Was National Petroleum in Canada following the procedures outlined by Jones and Berdine in the report given to the A.P.I. meeting? A. Yes.

Q. That is, they were using scratchers in the removing of the filter cake from the permeable strata during cementing operations?

A. That is correct. [3044]

Q. Now, Mr. Jones gave this report to the A.P.I. meeting. Did he read his report?

A. No. He talked from the slides primarily.

Q. And at that report did he state and did you understand how the scratchers were mounted on the casing? A. Yes.

Q. How?

A. They are mounted so that they are free to rotate and move vertically within limit, within a narrow limit.

Q. And from the report given by Jones at the

(Testimony of Eugene L. Davis.)

A.P.I. meeting on March 19, 1940, you understood that fact? A. Yes.

Q. At the particular time of the A.P.I. meeting in March, 1940, did you have any other acute problem in the drilling of oil wells in the Long Beach area? A. Yes.

Q. What was that problem?

A. That was concerned with the completion of producing wells in the Brown zone at Long Beach.

Q. What caused the particular problem, Mr. Davis?

A. Well, the field was old and the pressures were very low, so that there was a large amount of filtrate that went back into the productive formation during the drilling operation and deposited a very heavy filter cake on the wall. It was difficult to get it off. [3045]

Q. On what wall?

A. On the wall of the drill hole of the productive formation, of the producing sand.

Q. Was that in the impermeable or permeable portion of the hole?

A. It would be in the permeable zone.

Q. And did you do anything with respect to that problem after this A.P.I. meeting?

A. Yes. We applied scratchers to the liners that we ran in the hole and worked them in a similar way to the way the casing was worked in a cementing operation.

Q. Did you have a successful elimination of the problem by this method? A. Yes, we did.

(Testimony of Eugene L. Davis.)

Q. Did that practice continue after that time?

A. It did as long as I was there.

Mr. L. E. Lyon: That is all. Well, wait.

Q. After you left the Texas Company in 1941, what occupation were you engaged in, Mr. Davis?

A. I was appointed to the Petroleum Administration for War at that time.

Q. And how long did you continue in that position?

A. I was with it for four years.

Mr. L. E. Lyon: That is all. [3046]

* * *

KENNETH A. WRIGHT

a defendant herein, having been previously sworn, resumed the stand and testified further as [3057] follows:

Direct Examination

(Resumed)

By Mr. L. E. Lyon:

Q. I think, Mr. Wright, when we adjourned last evening you were giving a statement of a method of well conditioning as you perceived the same. I don't believe that you had finished your explanation of that method as you have set forth in your patent, Plaintiff's Exhibit No. 37. And in that regard you were speaking about abrading the wall of the well, the permeable section. What was the element which performed this abrading operation? [3058]

* * *

(Testimony of Kenneth A. Wright.)

A. The abrading element that I had in mind at the time of making the application, and which has been utilized thereafter, is the wire end or the end of a wire to do a scratching operation on the face of the permeable formation.

Q. (By Mr. L. E. Lyon): Is this abrading carried out at a particular time in this operation of well completion or for a continued period of time, Mr. Wright?

A. It is carried out, if utilized to the best advantage, for a continuous period up until the time the completion of the abrading, the requirement for the abrading is completed.

Q. What is that continuous period of [3059] time?

* * *

A. I think by way of explanation it should be realized that a well bore full of rotary mud, that is, drilling fluid which we call rotary drilling mud, is in effect the primary cause of the hydraulic system in motion; that is to say, opposite every permeable strata or section of the well there is filtration going on, filtrate proceeding or migrating into the permeable section and leaving behind on the face of the permeable section the filter cake, plus this uncertain amount going to some depth into the permeable section.

Now, that operation will not cease until the hydrostatic head is removed; that is to say, at any given sand the fluid level has got to be lower than that, or else it will continue.

When you go in the well with the casing equipped

(Testimony of Kenneth A. Wright.)

with the scratchers and establish circulation, or break circulation, using whichever term you elect, the filter cake is removed by the scratchers operating on the face of the permeable [3060] section either as a result of the reciprocation or rotation of the casing.

The first accomplishment is to remove, probably better named, the primary filter cake, but while you are removing the primary filter cake you cannot arrest or stop this hydraulic system and there is a second deposition taking place. You actually remove the greater amount, but there is a continued redeposition during the period of the scratching and abrading. The thickness of the cake is related to time, pressure and temperature. So you do not remove the filter cake to the sufficient amount to arrive at the desired success unless we introduce the fluid containing the material other than the colloidal material found in the drilling fluid, and by abrading during that period, that is, when the fluid is being changed to one not carrying the colloidal material, is when the final end result is best accomplished.

Q. What is this fluid that is fluid other than that containing the colloidal material, Mr. Wright?

A. Well, in cementing operation the fluid would be water carrying any cementous material, although it may be oil to condition the well, to carry away the abraded material, scratched-away material, although there have been other fluids introduced such as cementation, shall we say, by asphalt and let it

(Testimony of Kenneth A. Wright.)

solidify in the same manner as the cement mixed with the water; but the end product is the [3061] same in the operation, carried out mechanically the same.

Q. And that end product is what?

A. The formation face has been abraded to the extent of removing the deposited material, which was the period during the drilling phase, and you have a clean formation face, a firm bond with the cement, contact bond with the cement being the usual objective.

Q. Mr. Wright, you had testified in a prior sequence of events up until the time that you had filed the application for the patent, Exhibit 37.

Following that filing of that application—I believe that was in August of 1939—did you do anything further with the development of this solution to this problem of well conditioning? A. Yes.

Q. What?

A. I started to design a tool or device which could be used on the casing to be set in the well to carry out this method.

Q. And when was that?

A. My recollection is I started in July or August, possibly a little earlier.

Mr. Scofield: Of 1939?

The Witness: 1939.

Q. (By Mr. L. E. Lyon): You started to design this [3062] tool. What tool was it that you designed, if any, at that time?

A. I was desirous of having a tool which would

(Testimony of Kenneth A. Wright.)

scratch the surface of the casing, surface of the well bore, that was to be mounted on the casing that was to be set in the well bore and have it of a construction that would do the work required when in position in the well and, at the same time, not losing sight of the very important point that the casing with the devices on it had to be run into the well bore, it being practically a first basic premise in the industry that drilling the hole is one thing and casing it is another, and a drilled hole without casing is of no value.

Q. All right. Did you design such a device at that time, in July or August or whatever time it was in 1939?

A. Yes.

Q. And what device was that?

A. That is a device which is an exhibit here which I do not see before me, but it is called B & W wall-cleaning guide.

Q. Well, there is quite a boxful of exhibits here, Mr. Wright. Maybe you would desire to pick out one of them as the one that you have in mind. Will you do that, please?

(Witness selecting exhibits.) [3063]

You have picked out quite a selection of exhibits, Mr. Wright. Will you just identify those by the exhibit numbers, for the purpose of the record? Take the exhibit that you picked out first.

* * *

(Testimony of Kenneth A. Wright.)

The Witness: I have before me at this time Exhibit 104, is that correct?

The Reporter: Yes.

The Witness: That is a scratcher I elected to call a wall-cleaning guide, which the trade knows as a scratcher.

I have another one here, which is Exhibit FFFF, which again is a scratcher known by B and W's advertisement as a wall-cleaning guide, called a scratcher by the trade.

I have another exhibit here—— [3064]

Q. (By Mr. L. E. Lyon): Exhibit CK.

A. Which is termed "CK," and that is a scratcher manufactured by B and W and designed by me, and again it is called a scratcher.

Here is another, Exhibit IIII, and that is a scratcher designed by me.

And all of these are called scratchers, and the device which I designed.

Q. After you had designed the scratcher as you have stated, as illustrated by these different exhibits, what did you do with it, Mr. Wright?

A. During the period of development of this device, which would be about October and November, I do not exactly recall the exact dates, and at a time when this device had advanced to the point where the base structure, that is, the torque mounting of the wire on the sleeve, and the clip, and this wire extending outwardly to abrade, scratch the well bore, and the wall of the well bore, I was informed, I believe by Mr. Barkis or someone else,

(Testimony of Kenneth A. Wright.)

that the Union Oil Company had started a project to do some testing and research into the reason for repeated failures of cementation, and that the project was in some manner to be finalized as a report to be given by the American Petroleum Institute at their spring meeting in March of 1940.

At the time of learning of this, I was informed that [3065] this series of tests, or whatever they might be termed, were to be conducted by the Union Oil Company field-research men, a Mr. Jones and a Mr. Berdine, at a location on Dominguez Hill adjacent the drilling wells, actually drilling, in the process of drilling at the time; and that all manufacturers that had equipment which might be used in that particular phase of the drilling completion of an oil well were invited to bring their equipment and have it used by the Union Oil Company in this series of tests, and this device to be used in that particular part of oil-well-completion operations was submitted by me, and at that time Mr. Barkis was with me, associated with me, and it was to be used in the demonstrations and tests there at Dominguez Hill; together with instructions of the supplier to the Union Oil Company men of how the equipment was to be used in the standardized equipment which they had developed there for the purpose, it being understood that they would follow out rigidly the individual manufacturers' specifications for everything, such as how to mount it on the casing and whether to reciprocate it, rotate it, or whatever their individual requests were.

(Testimony of Kenneth A. Wright.)

Q. Did you deliver any equipment at that location to Messrs. Jones and Berdine in these tests?

A. Yes.

Q. Did you see and have explained to you the test apparatus that was to be used? [3066]

A. Yes.

Q. Did that test apparatus follow any recognized procedure with respect to filter-cake observations, Mr. Wright?

A. Yes.

Q. In what respect?

A. Well, we were dealing with this basic premise, that wherever you have permeable strata or section and have a colloidal material in suspension in fluid, and one is applied to the other, the result will be a deposition of filter cake on the permeable section, be it filter paper or canvas or the wall of the well bore, they all being identical in their fundamental premise.

Q. Now, is there any recognized procedure for testing of drilling fluids with respect to the deposition of filter cake, Mr. Wright?

A. Yes. I do not recall the date of the adoption by the A.P.I. of some of the apparatus, but there have been for many, many years standard procedures for determining a few of the very pertinent points to be observed of the drilling fluid, such as the rate of filtration, the thickness of the filter cake under a standard condition, and the viscosity measurement.

Q. Now, is that recognized procedure, to utilize

(Testimony of Kenneth A. Wright.)

the deposition of a filtrate in making the determinations? A. That is correct. [3067]

Q. Upon what type of medium?

A. Upon a piece of filter paper placed in an apparatus.

Q. And how does that filtering operation compare with what Jones used in these tests?

A. It is identical in basic premise, but Jones enlarged it to where he simulated the well, by keeping and never departing from this basic premise of deposition of colloidal material upon the permeable section.

Q. In that test operation, what took the place of the recognized filter paper?

A. The canvas lining placed inside the steel cylinder.

Q. And what took the place of the permeable strata?

A. Well, the canvas is the permeable section permitting the filtrate to pass into it and through it, and by removing it in that way, and we have the same hydraulic system in motion as we do at the well, and this simulated well, as I recall it, was 15 feet in length and having a diameter of—the steel cylinder was, I think, seven inches, according to my recollection, and the canvas lining inside of that, which would make an inside diameter of approximately six and seven-eighths—we assume that this canvas was one-sixteenth of an inch—and so Jones duplicated with complete fidelity the conditions found in the well bore and carried out the tests,

(Testimony of Kenneth A. Wright.)

and at the same time he used mud from a central drilling pit which was actually the mud from wells which were [3068] drilling, and where the mud was returned from the bits of the drilling wells to be conditioned and pumped back to the wells through the mud lines, to the various wells. And in his report he makes observations on viscosity and a few things—I don't recall them all—which are the standards used by the industry for many, many years.

Q. Now, you have used the expressions “drilling mud” and “drilling fluid,” and I believe we have used them in this testimony. Just so the record may be clear, what is the drilling mud?

A. Well, if you mix water with the clays and shales in the earth, you get mud. You might say that is very old.

But, in the drilling of a well, it so happens that some very, very unusual phenomena take place. Now, the formations of the earth, speaking of the sediments, are composed principally of shales, clays, and varying mineral compositions between, together with the sands.

Now, in the clay-sand group, viewed as a large group, we find that a large part of them come within the classification of kaolins, and within the kaolin group we find, under better examination, a more specific classification, such things as Illete and Montmorillinite, and those are present in varying amounts in all the sediments of the earth.

Now, this kaolin group, of which there is a substantial amount in all the clays and shales, has a

(Testimony of Kenneth A. Wright.)

peculiar [3069] characteristic, in that they are mineral colloids, it being recognized we have organic colloids and mineral colloids.

Now, these mineral colloids have peculiar behavior when suspended in water, in aqueous media. And it is that particular phenomenon which makes good drilling mud.

Now, the colloids, that is, these mineral colloids, stay suspended in the water as long as we have the water, let us say, fresh or pure, that is, if we do not introduce chemicals to unbalance it.

Now, the suspension of these colloids in the water is something of a—it should be observed this way: if the fluid moves or reacts to any hydraulic law, the colloids will react with it. They are suspended in the fluid to a point of being part of its specific gravity, let us say, that is, the weight of the composition of the colloids and the water is a unit.

Now, in drilling a well and starting with either mud from a formerly-drilled well or starting with water, if there is sufficient clay at the surface to make mud right at the first foot, that is, there are places where we can just start with water and within the first five feet be making a reasonably good rotary drilling mud; and at other places, where it is too sandy, we always provide these with mud from a previously-drilled well or mud by getting suitable clay, such as Illite or Montmorillinite, and mixing it [3070] with water, and have that available. But while we are drilling the well, as the bit advances,

(Testimony of Kenneth A. Wright.)

we obviously—we use the expression “making mud”—we get mud where it has become so viscous that we have to add water to it, because we are drilling in materials which are good mud-base materials themselves. Now, that is the drilling mud we use.

Q. What is the function of the drilling mud in a well?

A. Just a minute. I am addressing all this to water-base muds as distinguished from oil-base muds, because there are such things available in the trade. They have come in recently, and so there won't be any confusion I am addressing my statements to water-base muds.

Q. What is the drilling fluid or what is the drilling mud used for in drilling a well, what is its purpose or function?

A. The drilling mud serves to prevent loss of fluid into the permeable strata by slowing down the filtration rate of the fluid into this cake that is being deposited on the permeable strata. It provides a lubricant and coolant for the bit. It provides the transportation means for bringing to the surface the cuttings that the bit makes during the drilling operation. And it also provides the hydrostatic head, as in terms of pressure pounds per square foot or inch, rather, on any permeable strata where fluids might be found, or gas, which would have a pressure sufficient to cause a [3071] blowout, that is, the direction of flow would be from the sand strata into the well, rather than the direction of flow being outward.

(Testimony of Kenneth A. Wright.)

Those are the general premises.

Q. When you observed this demonstration of equipment that Jones and Berdine were going to use for the Union Oil Company at Dominguez Hills were you or were you not satisfied that the procedure to be followed was representative of conditions which would be found in the hole and were sufficiently recognized in the industry to give a true and exact test, Mr. Wright?

A. As far as I am concerned, it was a complete demonstration, the size of the equipment, the procedures that were carried out, everything presented was suitable for transportation of all the basic demonstrations there, in fact, all the detailed demonstrations to put it in the oil well and carry it out in the well itself.

Q. Did it follow recognized A.P.I. [3072] procedures?

* * *

Q. (By Mr. L. E. Lyon): Mr. Wright, you have testified that there was a recognized procedure for testing drilling fluids, an A.P.I.-recognized test, is that correct? A. That is correct.

Q. Do you have anything here in the courtroom which will illustrate any equipment for usage of that recognized procedure?

A. There is a composite catalog which I have available here somewhere which contains illustrations and a test to support them.

Q. Is this the composite catalog you have in mind?

(Testimony of Kenneth A. Wright.)

A. I have in my hand the "Composite Catalog of Oil Field and Pipeline Equipment, 1948, 16th Edition, Volume I," and that is a section of the catalogs which are supplied by the Baroid Sales Division which I believe is an affiliate of the National Lead Corporation.

We find apparatus which is used to determine those characteristics of the drilling fluid which I previously stated, such as filter-cake thickness, viscosity, and the amount of filtrate produced during any one of the tests followed out. Together with that is this, the device for determining the specific gravity or the weight per gallon or weight per cubic foot, whichever way you wish to report the weight of the fluid, and those are found on pages 540, 541, and 542 of the composite catalog which I have previously [3074] identified.

* * *

Q. (By Mr. L. E. Lyon): Mr. Wright, you have referred to this literature for what purpose?

A. To show that Mr. Jones, in carrying out these demonstrations, followed procedures which the industry had recognized, as the engineers and technicians in that particular part of the drilling and producing of wells had known for several years, ten years approximately to my knowledge, as piece by piece all of these operations became standard procedures, and I quote here from page 540—— [3075]

* * *

Q. (By Mr. L. E. Lyon): I just wanted to get, before you complete your answer, what the business,

(Testimony of Kenneth A. Wright.)

to your knowledge, of the Baroid Sales Company is, Mr. Wright. Just answer the question and then go on.

A. The Baroid Sales Division of National Lead are one of the biggest suppliers of this apparatus which is used by the mud engineers and the industry at large in determining these particular qualities and characteristics of the drilling fluid.

Q. Well, do they have any business in selling materials for rotary and mud itself?

A. They are big suppliers of every——

Mr. Scofield: We will stipulate that, your Honor.

The Court: Will you accept the stipulation?

Mr. L. E. Lyon: I will accept the stipulation.

The Witness: If I may squeeze this wording in here:

“Operation of the Balance follows A.P.I. recommended practice (Code No. 29, Second Edition, July, 1942), as follows:”

And I believe if I would read this further, I would find further confirmation.

The Court: What are you reading from?

The Witness: This is page 540 of the Baroid Sales Division advertising material in the composite catalog. [3076]

The Court: Is that an exhibit?

Mr. L. E. Lyon: That is not an exhibit yet, your Honor.

We will offer the particular pages referred to by

(Testimony of Kenneth A. Wright.)

the witness, which are pages 540, 541, and 542 of the 1948 edition of the "Composite Catalog," the 16th edition, I believe, isn't it, Mr. Wright?

The Witness: Correct.

Mr. Scofield: I object merely to its materiality, your Honor.

Mr. L. E. Lyon: As exhibit——

The Clerk: FU. [3077]

* * *

Q. (By Mr. L. E. Lyon): Mr. Wright, these tests that were carried out using this apparatus at Dominguez Hills—and did you supply, yourself, personally, equipment for use in those tests?

Mr. Scofield: We will stipulate that, your Honor.

Mr. L. E. Lyon: Accept the stipulation.

Q. What was the equipment that you provided, Mr. Wright?

A. According to my present recollection, there were two scratchers supplied initially for use for Jones in the apparatus which he had set up there at Dominguez Hills.

Q. Are those two devices illustrated or shown or exemplified by any exhibit here in evidence?

A. I don't know what you mean by "exemplified."

Q. Well, is there a replica of those devices here in evidence?

A. The device before me, IIII, is identical, with the exception that on the extreme outer end it did

(Testimony of Kenneth A. Wright.)

not have this particular sidewise motion or sidewise direction, and extended outwardly more or less to a sharp end from the [3081] collar or sleeve of the scratcher.

Q. I would like to have you explain—and if you have any models or devices which have been not here so far identified—the precise construction and principle of the scratchers which you first delivered to Jones and Berdine, explaining how they are constructed and how they were intended to operate, Mr. Wright.

* * *

The Witness: I am still a little bit uncertain as to——

Q. (By Mr. L. E. Lyon): Mr. Wright, in these scratchers that you provided Mr. Jones and Berdine there were certain [3082] elements and parts of the scratchers, were there not?

A. That is correct.

Q. What I want is the whys and wherefores of all of those parts of that scratcher; and if you have any models or devices which will enable you to demonstrate the construction and the principle of the scratchers that you provided, I want you to use those in giving your explanation, other than this chart before you. I believe you have some broken-down models which have only one wire on them which would illustrate the construction upon the complete device, and I wanted you to use those.

* * *

(Testimony of Kenneth A. Wright.)

Q. (By Mr. L. E. Lyon): You have before you a device which has been heretofore marked by me as—— A. Exhibit EB.

Q. ——Exhibit EB.

A. This Exhibit EB is a skeleton-like structure to demonstrate the basic construction of the devices which were taken to the Jones tests. They constitute a collar or sleeve, those two terms being identical, and a clip affixed to the outside of the collar or sleeve, a spring steel wire [3083] passing partially around the circumference of the sleeve, and I mean the outer circumference or periphery, and held in position by these clips which have slots in them so as to keep them in alignment and more or less aid in their mechanical performance.

After passing around the sleeve for the required distance in the outer periphery the wire goes through an arc and then extends outwardly. And in operation, when it is placed in the well, the first part of the device to yield to the putting of the device into a well bore in which the diameter of the well bore is less than the outer diameter of the wire ends, the section passing about the periphery absorbs that torque action and, as we tilt the wire upward, as on the down-stroke, we get this torque action and we get some abrading action or scratching action on the wall of the well bore at the time you are making the downwardly descending motion into the well bore.

The clips are only for positioning the wire and holding it in place, and not welded or fixed to it in

(Testimony of Kenneth A. Wright.)

any manner other than the extreme end which has a hole in it, the clip on the extreme end which has a hole in it to make fixed the other end, so we have the length of wire passing about the periphery as a torque section.

Q. In an ordinary construction how many of those clips are there used to hold each wire in [3084] place? A. 10 clips.

* * *

Q. Does your answer, eliminating the word "ordinary," also apply to the structure that was supplied Jones and Berdine in the first test?

A. That is correct.

Q. All right. Now, as I understand your explanation, then, you have a collar and this scratcher that was supplied to Jones and Berdine had a collar. On the outside of the collar is a plurality of these clips which are welded to the collar?

A. Correct; the clips are.

Q. The clips are. Now, the wire, which is the scratching element, is it not?

A. That is correct.

Q. Embodies two parts—a part that extends free away from the collar, a part where there is an arc formed in the wire, and then the part of the wire which extends around the periphery of the collar and terminates in an upturned end which is locked in one of the clips, is that correct? [3085]

* * *

A. That is correct.

(Testimony of Kenneth A. Wright.)

The Court: The part of the wire that extends around the periphery of the collar also extends under the hole or loop in some of the clips, does it not?

The Witness: Yes, your Honor. I described those as slots.

The Court: Slots in the clips?

The Witness: Yes.

Q. (By Mr. L. E. Lyon): This portion of the wire——

The Court: How many of those clips, other than the clip at the end of the wire, are welded?

The Witness: 10 clips are utilized for each wire, having in mind that each clip also serves for other wires by progression about the periphery of the sleeve.

The Court: In other words, as to each wire one end of the wire is welded to one clip, that wire extends around the periphery of the collar through a slot in nine clips and then protrudes outward a distance from the collar, is that it?

The Witness: That is correct, your Honor, with the [3086] exception there is no welding of the wire to the clip. It passes through the hole. Welding of spring steel is not good metallurgical practice.

The Court: I misunderstood you. Then how is the end of the wire finally made secure?

The Witness: This hole here turned outward from the collar, right there, that is the end of the wire I am pointing to at this point. That is its end passing about and outward.

(Testimony of Kenneth A. Wright.)

The Court: What makes it secure, that hole?

The Witness: It passes through a hole, the profile of the wire comes back and turns this direction, and that is the anchoring point. Passing through the hole and the clip itself is welded to the sleeve at these points here where I am indicating.

The Court: So one end of the wire is anchored under one clip, instead of welded to the clip?

The Witness: That is correct. But pardon my correction, but welding of spring steel to this is not permitted metallurgically.

Q. (By Mr. L. E. Lyon): Now, Mr. Wright, what is the function, if any, of this curved portion of the wire which follows the periphery of the collar and is the portion which extends under these nine or 10 clips? What is its function, if any?

A. That is the part of the spring steel wire which [3087] provides the energy to cause the wire end, outer end I mean by that, to do the scratching. If there were no torque section there to supply energy, the wire would fold back against the collar and probably remain there.

Q. You have used the word "torque." Now, what do you mean by that?

A. Well, the twisting of a rod or any piece of metal or wood is the torquing. When you apply twist you are torquing it.

Q. How does that compare with a spring?

A. It is identical—with what?

Q. With a spring.

A. Well, it is a spring.

(Testimony of Kenneth A. Wright.)

Q. Oh, it is a spring?

The Court: You are referring there to the tendency of the wire to return to its original position?

The Witness: That is right, your Honor. That is correct.

The Court: And these holes through these various slots afford an opportunity for the wire to wind up?

The Witness: That is correct.

The Court: The spring to wind up, and gives a play in which to do it, is that correct?

The Witness: That is correct. Wind up is a good expression there, there being no fixed relationship between [3088] the slots and the clip and the wire to prevent it from winding up.

Q. (By Mr. L. E. Lyon): In your explanation before, you stated that the end of the wire performed the abrading. Is that true in this model that you first presented to Jones and Berdine, or these two structures—I don't mean "models"—the two scratchers?

A. That is correct. They extended outwardly and terminated in a sharp end.

Q. What happened to these first two? I believe that is shown in the transcript of your testimony before given, that the first two ripped the bag, is that correct?

A. I didn't see them rip the bag and it is reported to me that that is what happened; that they used them to the point that they finally cut a hole in

(Testimony of Kenneth A. Wright.)

the canvas sack and let some mud fluid escape, and so they terminated that particular run.

Q. Did that cutting action at the end of the wire demonstrate anything of the abrading characteristics of such a wire scratcher?

A. That is the desired objective, is to abrade the wall or well bore.

Q. You carried on three other determinations with Jones and Berdine, in which I believe your testimony shows that there were wires in different forms, is that correct? [3089]

A. That is correct.

Q. And terminated in the structure shown in Figure 26 of the Jones and Berdine report, is that correct? That was the last form of structure used?

A. That is correct.

Q. And that last form has the ends of the wires formed in a certain way. Did that have anything to do with the abrading of the well, Mr. Wright?

A. Yes, directly, very directly.

Q. And how?

A. In order to prevent the repetition of cutting the canvas bag again, I resorted to putting little beads such as are demonstrated on the ends of the wires on Exhibit IIII, so that it would not cut the bag yet would demonstrate the abrading action or scratching action of the wire ends against the wall of the well bore.

Q. Following the completion of these tests of Jones and Berdine did B & W sell any scratchers to anyone? A. Yes.

(Testimony of Kenneth A. Wright.)

Q. To whom did they sell scratchers first?

A. To my recollection, a company known as Thomas Kelly & Sons.

Q. Where were they located, or was that sale to a particular well?

A. Well, pardon my correction, but it was sold to the [3090] company, Thomas Kelly & Sons, for use on a well.

Q. Where was the well located?

A. The well was located in the Rosecrans field on South Main Street, here in Southern California.

Q. And you, personally, I believe your testimony already in the record shows, that you personally delivered 23 scratchers to that well?

A. That is correct.

Q. And those scratchers were of what construction?

A. The scratchers delivered to the Kelly well were of the construction of Exhibit FFFF.

Q. And how does Exhibit FFFF differ from the wall-cleaning guide of Exhibit 104, Mr. Wright?

Mr. Scofield: The exhibits themselves, your Honor, are the best evidence.

Q. (By Mr. L. E. Lyon): If at all.

The Court: They may not be. There may be some opinion an expert could give with respect to the operation. Overruled.

The Witness: Would you mind repeating the question?

Q. (By Mr. L. E. Lyon): How does FFFF differentiate from Exhibit 104, is the question?

(Testimony of Kenneth A. Wright.)

A. Basically they do not differ at all. They might be a little more sidewise angle after leaving the periphery, but in operation they are essentially the same in the well. [3091] An observed difference can be made while running in.

Q. You say that Exhibit FFFF has a greater angular inclination or a different angular inclination—I forgot your exact words—than Exhibit 104. Will you explain what you meant in that?

A. Well, these wires, starting with the end which is affixed to the clip by having its end pass through the hole, passes around the periphery, passes through an arc and extends outwardly. And in the——

Q. You are talking now about Exhibit 104?

A. 104. And Exhibit FFFF, that arc at the base is just a little bit greater curvature, the radius being increased at that point.

Q. Do both of these structures, as I understand your testimony, have sidewise inclination of the wire fingers? A. That is correct.

* * *

Q. (By Mr. L. E. Lyon): Mr. Wright, will you explain how the scratchers of the type of FFFF, 104, or IIII are mounted on a casing for use in an oil well or in the Jones and Berdine demonstration? If there was any difference, state [3092] what the difference was.

A. In Exhibit IIII Mr. Jones carried out my requests and mounted the device in the manner

(Testimony of Kenneth A. Wright.)

shown here in this exhibit. That is, it was limited in vertical travel on the casing to about six inches and was rotatably mounted between the two rings which are positioned on this section of the casing.

It was my first idea that these stops should be made of a piece of rod which is common to field operations in oil wells, and we called a welder out to the job. A welder in the oil field languages is a man having a small truck upon which is positioned a set of welding equipment, both acetylene and electric, because the jobs he goes to require electric welding, are welding, that is, some require acetylene welding and some require operations for cutting. So the welder that comes to the job will always have welding rod, cutting torch, welding torch, and electric arc welding equipment; and he has it in a substantial quantity because he does not know how long the job will be. It might be two hours or it might be six or eight hours. He doesn't know.

So it was my intention to provide a very neat stop, such as I indicated on this IIII exhibit, which would——

Q. I believe the casing itself has a different number, Mr. Wright.

A. The casing is CF, I find. But the point of it is [3093] that this stop would be completely uniform circumferentially and not interfere with this scratcher rod at either end during this reciprocating stroke which takes place in the well.

And, as I say, a welder who comes to the job always has lots of welding rod. It took more time

(Testimony of Kenneth A. Wright.)

to make these rings than I had imagined, so the next step was to resort to a building of a lug. And there, again, I took the precaution of telling him to build the lugs sufficiently high and of a particular structure or configuration so, again, they would not interfere with the scratcher being free to travel vertically and rotatably.

And there is an exhibit here which we called our instruction sheet for a short time——

Q. Exhibit HH. I just asked for it.

A. I have in my hand Exhibit HH and the instructions for mounting the scratcher on the casing are as follows:

“Build four beads evenly spaced on casing, one-quarter-inch thick, with arc weld at the lower lug.”

It says “a set of lugs”—pardon.

“Build beads to have square shoulders as indicated.” Meaning that this device would not be frozen or bound or ride upon the bead and become locked and inoperative.

Q. I place before you two devices, one a [3094] casing which I have marked Exhibit ED and the other containing a scratcher marked Exhibit EC. I will ask you what that model is and why you prepared it?

A. This model, which is composed of Exhibit EC, together with Exhibit ED, demonstrates what is shown in Exhibit HH by following out those instructions. The beads are not as square as indicated there, but, again, I found that I had to stand over the welder and practically take the job in your

(Testimony of Kenneth A. Wright.)

own hands in order to get the thing quite as engineeringly perfect as it indicated in this drawing.

So this arrangement, as I have previously identified here in my hand, shows what was adopted as the standard practice; and that is what is shown in our Bulletin 101 which appeared about a month after this Exhibit HH, though the beads do not have this perfect engineering end point, because that is just a little bit difficult to obtain in field practice.

* * *

Q. (By Mr. L. E. Lyon): Will you proceed with your answer? And the question was to describe the operation of these scratchers as they were operated in the Jones and Berdine well and at the Kelly installation, explaining any difference [3095] between the structures or operations that were performed in either case.

A. The devices were all mounted rotatably between stops. The difference between the stops in the field being about 12 inches. On the Jones they are slightly less, but they are free to rotate and free to slide for the distance shown between the stops.

That manner of mounting was carried out at the Kelly well the same as with Jones, except for the substitution of the lugs for the welding rod made into a ring and positioned for use as the stops.

The device when lowered into the well has an outside diameter greater than the bit diameter, so that when lowered into the well, as soon as the wire ends take contact with the wall of the well bore or the

(Testimony of Kenneth A. Wright.)

interior of the casing that may have been set in the well bore, the device is then pushed, in effect, down the well bore by the upper set of lugs and the wires at that time are tilted upwardly.

Q. Demonstrate their manner of tipping.

A. They are restricted; in other words, that is, at a reduced diameter and upwardly.

Q. All right. What part of the scratcher wire is in engagement with the wall of the hole?

A. The outer end of the wire is in contact with the wall of the well bore. [3096]

Q. Now, that continues, I presume, until the casing is lowered to its desired point in the well, is that correct?

A. With the exception that the casing is supplied to the well in joints. We do not have casing in such long strings. We have to have individual joints, and so we screw them together joint by joint into the preceding joint, and then—and I am going to turn this upside down so that it resembles what we see in the oil field of having the thread end down rather than up—and, as each succeeding joint is pulled into the derrick and screwed into the collar of the previous joint, an operation is required which is known as freeing the slips or getting the slips out, several different expressions, but in effect it means that you must lift the casing slightly in order to remove these devices which hold the casing from falling into the well. [3097]

Now, at that time the scratcher is actually against the upper lugs, when that particular operation takes

(Testimony of Kenneth A. Wright.)

place, so if the driller does not pick up the casing too far, the casing goes upward, the scratcher stands still, and, as I previously stated, depending on the amount of upward travel that the driller makes when he picks up the pipe to free the slips, the scratcher will stand still. If he gives it more than this distance (indicating), then he will start pulling the scratcher up the hole and start abrading upon the upward stroke.

If he picks it up any distance less than this (indicating), then, as he lowers it down, the scratcher travels downward, being followed by the upward plug.

So, joint by joint, we put the casing into the well to the required depth that the operator is intending to carry out the setting of the casing in the well.

Q. (By Mr. L. E. Lyon): All right. Now, you have got it down at the bottom. Then what do you do?

A. Well, there are lots of operations that take place in between times, but when we do get it to bottom, assuming we have carried out these other operations, such as keeping the casing full, or whatever type of running operation you might have carried out, the next operation is to put on the casing head. It is also called a circulating head, and it is used in order to connect up the fluid system and, by [3098] attaching, screwing it into the upper end of the casing, this head, together with a hose con-

(Testimony of Kenneth A. Wright.)

nected to the drilling mud system and the pump, you establish circulation, so-called, or break circulation, meaning that mud and fluid is sucked up into the intake of the pump, passed into the hose and down the casing, out the lower extremity through the shoe and returned upward in the annulus, and that is breaking circulation or establishing circulation.

As soon as circulation has been established, you should start moving the casing, and in the use of this type of scratcher, which is a reciprocating type, you start the abrading of the well bore while circulating this drilling fluid, and the distance apart——

Q. And you continue that for how long?

A. That depends upon the individual opinion of the operator, and there is considerable variance in engineers' and drilling superintendents' ideas on how long they should do that.

Q. Well, is that the time that you are scratching the permeable formation?

A. The scratchers are positioned opposite the permeable strata, and some operators lap them over into the area above and below the permeable strata; and at the time that you break circulation, you start removing the primary filter cake, that is, the cake which has been deposited [3099] during the period that you did drilling, together with the accumulation that took place during the period that the well was quiescent, wherein you withdrew the

(Testimony of Kenneth A. Wright.)

drill pipe, rigged up to run casing, and got the casing back to bottom.

Q. I notice in these scratchers, like Exhibit IIII, and the scratcher Exhibit EC before you, that there are a half to three-quarters of an inch that separates the ends of the wires at their outer periphery. Do these act to peel the mud off the formation?

A. Well, I can't associate the word "peel" with what my concept of it does, because it is not the nature of—mud cake is not something that you could peel off.

Q. Then is it necessary to have the wire ends contact the entire periphery of the wall in order to perform this abrading operation?

A. No. They do not.

Q. The wires, then, in this operation, do they just travel up and down in the same path at the wall?

A. No. They do not.

Q. Then what do they do?

A. As the driller reciprocates the casing up and down for a distance greater than the distance between these stops, that is, the time that the scratcher does the abrading, and at the top and bottom of each of these strokes, the wires are required to reverse in the upward or downward position, [3100] depending upon the direction of the previous stroke, and impart a rotating motion to the sleeve, and as the scratcher then moves in the opposite direction, it moves over and scratches a new path. So, as he continues this operation, he is abrading, scratching the entire wall surface of the well bore in the area

(Testimony of Kenneth A. Wright.)

where the scratchers are positioned on the casing.

Q. What causes this scratcher to move as you have stated, to change the position of the wires? How does that work?

A. Well, as I have just stated, these wires are spring steel, they are of a dimension that permits a certain amount of flexing, and because of this curved relationship into the—in against the periphery, starting at the end of this—at the point where the wire in coming around the periphery, before extending outwardly, acts as a—imparts a rotating motion first on the scratcher sleeve, and it being free to rotate on the casing and limited in vertical travel to these stops, we get this shifting about on the upper and lower ends of the scratcher stroke on the casing.

Q. Does that operation have any name that has been used, Mr. Wright, as applied to this particular type of scratcher?

A. Yes. In that exhibit you have in your hand there——

Q. Exhibit HH. [3101]

A. ——if you will return it to me—in the first line of the instructions for handling of the casing, as we see, it says, “Upward movement of casing exceeding one foot reverses wire guides,” reversing the wires and getting this rotating action.

Q. And, from that, have these scratchers obtained any particular name, or have they been referred to by their operation as any particular type of scratcher?

(Testimony of Kenneth A. Wright.)

A. Well, Mr. Hall has adopted the word most extensively and we haven't, and in our advertising literature we mention the fact that—repeatedly mention it—but beyond that we haven't attempted to exploit it by commercial advertisement.

Q. What is the designation that Mr. Hall uses, when?

A. Well, throughout all of his literature, starting with about 1942 or '43, I don't recall which, he starts calling his device a reversible scratcher.

Q. And that "reversible" then refers to this function that you have just described, is that correct?

A. That is correct. [3102]

* * *

Q. I believe, Mr. Wright, that you were partially through your description of the mode of operation of these wall-cleaning guides in the different forms as shown by these exhibits, as that mode of operation was carried out in the Jones and Berdine test wells and in the Kelly wells. Will you proceed with that? [3118]

* * *

A. In reply to your question, Mr. Lyon, and addressing myself to Exhibit IIII which is mounted on casing—just a moment. Which is casing and which is the ring? Is CF the casing?

Mr. L. E. Lyon: CF. [3121]

* * *

A. As previously explained, the outside diameter of the wire ends is greater than the hole in which

(Testimony of Kenneth A. Wright.)

it is to be placed for use, that is, the greater diameter being accepted as the first index of the hole diameter to take recognition thereof. As the device goes into the hole and is pushed down by the upper ring of the casing, the upper stop ring I mean by that, the wires are bent upward and the ends are restricted inwardly so that the outside diameter of the wire ends is equal to the diameter of the hole at which it finds itself positioned. And when it does that, that places this torque section into twisting action and that torque section and the wire itself becomes more sidewise inclined because of the restriction in the reduced diameter from what the device was in its static condition, and, as it goes downward to the point where the operator or driller requires a reversal of the direction, and when he does the casing rises upward, the device stands still until the lower stop ring contacts it and starts pushing it up. At that time a force is exerted through the [3122] wire through this sidewise action, sidewise direction, I should say, down onto the periphery of the sleeve, and the result, it shifts over, which means rotating on the casing, and then in the upward stroke the wire end is drawn over to the new upward stroke and so on as long as the operator reciprocates the casing for a distance greater than the distance between the stop rings.

Now, the same operation is carried out in each of these devices and there is a force——

The Court: By “these devices” you are referring to exhibits?

(Testimony of Kenneth A. Wright.)

The Witness: Exhibit 104, Exhibit FFFF, and Exhibit CK and, yes, this one, EC, which is mounted on Exhibit ED. The mode of operation basically is all the same.

Q. (By Mr. L. E. Lyon): I have heard the expression used that this results in the wires "hunting." Do you understand what is meant by that, Mr. Wright? A. I believe I do.

Q. As applied to this, what do you understand that to mean?

A. Well, my understanding of it is that the rotation of the collar and resultant movement of the wires around the periphery of the wall of the hole might not be in exact mechanical precision, so that, in view of the fact that the hole may be partially out of round and these things, being [3123] spring members, there would not be mechanical precision operation during that period so the wires would move over and, as we have expressed it, hunt for the next position to it on the upward stroke or the downward, whichever the case might be.

Q. You have prepared, Mr. Wright, I believe, a model to illustrate the position of one of these scratchers in a hole or casing, and that model has been marked Exhibit EA. Will you explain that model and its purpose?

Mr. Scofield: What is the exhibit number?

Mr. L. E. Lyon: Exhibit EA.

A. Exhibit EA contains a scratcher identical to Figure 26 of Jones placed on a three and one-half-inch mandrel.

(Testimony of Kenneth A. Wright.)

Q. By "Jones," you mean Exhibit X?

A. That is correct.

And taking from Jones the statistical data that the inside diameter of the steel casing which was used was seven inches, and assuming the canvas to be one-sixteenth of an inch in thickness, resulting in inside diameter of that simulated bore hole of six and seven-eighths inches, this outer ring of Exhibit EA is six and seven-eighths inches in diameter. Coupled with that fact is the observation made from Jones that the outside diameter of the wire ends prior to placing them in this device and outer ring of EA, it can be observed that the outside diameter, I think, is seven [3124] and seven-sixteenths inches outside diameter. And if you will—pardon me.

Q. All right. You want this photograph?

The Court: Exhibit?

Mr. L. E. Lyon: It has not been marked, your Honor. It is one that I was not sure the witness was going to use. [3125]

Mr. Scofield: It is in the public-use proceeding.

Mr. L. E. Lyon: I will just ask that this be marked for identification at the present time as Exhibit FV.

The Clerk: FV.

Mr. L. E. Lyon: I will mark it on the back, to save time, FV.

(The document referred to was marked Defendants' Exhibit FV for identification.)

The Witness: This Exhibit FV was obtained in

(Testimony of Kenneth A. Wright.)

ts form that I have it in my hand by reading in Jones the fact that the casing used on which to mount these scratchers was three and a half-inch A.P.I. tubing. This was a three-inch, which in A.P.I. terminology means three and a half inches outside diameter.

The Court: Three inches inside diameter, is that it?

Mr. L. E. Lyon: Roughly.

The Witness: Roughly so, your Honor, and varying with the wall thickness of the tube. By photographic processes, this photograph here is now a three and a half-inch, by direct measurement, that is, by using a standard ruler you can determine the diameter of this tube here is three and a half inches, and by at the same time bringing everything back to the true scale, which the photographic instrument would do, we can measure the outside diameter of the wires as shown in Jones, in Figure 26 of Jones, Exhibit X, isn't it? [3126]

Q. (By Mr. L. E. Lyon): That is right.

A. And so, from that, I determined that the device of the Jones Figure 26 is placed in the cylinder and which carried out the tests and produced the billet known as Figure 27, which is according to my recollection 7 7/16 inches outside diameter on the wire ends. And having gone through that determination, the next step was to produce this assemblage of devices known as Exhibit EA which illustrates the device in the downward stroke, which

(Testimony of Kenneth A. Wright.)

shows the angular disposition of the wires in relation to the periphery in all respects.

The Court: In other words, you took the photograph, Exhibit FV for identification, plus the data in Exhibit X as to the dimensions of the drill pipe and the over-all dimensions of the scratching device, and from that you compiled this physical exhibit, which is Exhibit——

Mr. L. E. Lyon: EA.

The Court: ——EA?

The Witness: That is correct, but the basis of origin is the fact that there is a true dimension established in Jones in that he says there was a 3½-inch outside diameter tubing used.

The Court: Jones gives you two dimensions, as I understand it. He gives you the dimensions of drill-pipe tube and he gives you the over-all dimensions of the scratcher wires? [3127]

The Witness: No, your Honor, he did not give——

Q. (By Mr. L. E. Lyon): It was the over-all dimensions of the scratcher wires that you were seeking to get by this process, weren't you, Mr. Wright? A. Yes.

The Court: Do you get that from the drill pipe itself?

The Witness: I made that by establishing first a true photograph from that one in Jones, upon which this reads direct, as you can test by a ruler measure, three and a half inches in diameter, this tubing here.

(Testimony of Kenneth A. Wright.)

The Court: In the same photograph you have one dimension and you reduce that to scale and you get the other dimension?

The Witness: That is right. You enlarge it in this particular instance, your Honor.

Q. (By Mr. L. E. Lyon): You took this figure, which is Figure 26 of Jones—— A. No.

Q. Let us get this correct. Maybe I will be doing a little leading here, but you took Figure 26 and you had that enlarged to where the pipe——

A. The tube itself, the casing——

Q. ——to where the casing in Exhibit FV measured directly as three and a half inches, and you might demonstrate that to the court. You enlarged this Figure 26 of [3128] the Jones Exhibit X by photographic processes to where you could measure the pipe size directly on Exhibit FV, is that correct? A. That is correct.

The Court: What I was trying to understand—and if I didn't, correct me—is why is it necessary to enlarge the photograph? Assuming that the drill pipe was three and a half inches, the outside diameter, and knowing that the photograph is a photograph to scale, I suppose, and you have it photographed to scale, couldn't you take your relative measurements and find the other dimensions?

Mr. L. E. Lyon: It could have been done with a proportional divider more directly.

The Witness: Yes.

Q. (By Mr. L. E. Lyon): But you can do it more clearly by photograph than by doing direct

(Testimony of Kenneth A. Wright.)

measurements and that is the way you went at it, so that it could be demonstrated to the court that the physical dimensions were readily readable off of Exhibit FV?

The Court: You can state an equation out of it.

Mr. L. E. Lyon: That is right, you can state an equation.

The Court: Was there any unusual photographic method used here?

The Witness: None whatsoever. [3129]

Q. (By Mr. L. E. Lyon): Just by simple photography?

A. This could have been done by simple equations, but in order to eliminate that—I say that no one made an error in computation, and if you will notice at the top of the sleeve it is slightly under three and a half inches and at the base of the scratcher it is slightly over, so at the middle of the scratcher it is a true three and a half inches, which was the diameter used in Exhibit X, the Jones report.

The Court: But a person could take Figure 26 itself and devise a scale by exact measurements and reach the same result?

The Witness: That is right; take this Figure 26 in Jones as a starting point, that is a known base point, and compare the true to the observed in the same relationship to the outside.

The Court: Whatever measures on the photograph at three and a half inches as to one of the other measurements could be read direct?

Testimony of Kenneth A. Wright.)

Mr. L. E. Lyon: That is correct.

The Witness: That is correct, which is simple algebra. It would be repetitious, but I did it in this way so it could be read direct and it could be more easily applied.

Q. (By Mr. L. E. Lyon): Having made this Exhibit EA, what does it demonstrate?

A. This Exhibit EA, containing the Jones Figure 26, [3130] Exhibit X scratcher shows, as I have stated before, the wire ends in a position to abrade the inner wall of a well. They are under spring tension to carry out the abrading during the reciprocating. The angular disposition of the wires to the collar has increased the sidewise direction due to placing them in the restricted diameter. And so we are observing this angular release of this extended section as well as the angular relationship of the wire as it approaches the periphery of the collar or sleeve, and the clipping has been removed so that the set can be observed without any obstruction whatsoever.

And this wire, which is the top wire opposite the tag containing the designation "EA," shows this series of angular relationships which I have just described.

Q. Now, in regard to Exhibit EA, there is a compression of these spring members, spring fingers, where the outer ends of them hit the inside of this ring in Exhibit EA, is there not?

A. That is correct.

(Testimony of Kenneth A. Wright.)

Q. And that is the point of application of a force on that wire, is it not?

A. That is correct.

Q. Now, what is the effective direction of the application of that force, that is on the end of that wire to the collar? Will you just demonstrate that? [3131]

A. It can be best observed by a line of force from the outer end of the wire where it is in contact with the inner wall of the well bore to where—at the end of the lower arc, and where it makes contact with the periphery of the sleeve itself, and that provides the driving force which results in the rotation of the total device during the reciprocation, provided, as I have stated before, if the amount of reciprocation is greater than the distance between the two stop rings or plugs.

Q. And that is an angular inclination with relation to a tangent drawn at the point of contact. Can you estimate approximately what that angular inclination is, in degrees? Perhaps we have a protractor here.

The Witness: Pardon me. May I have the question repeated?

Mr. L. E. Lyon: Have we that little protractor here?

Mr. Scofield: You are testifying about FV?

The Court: About EA.

The Witness: About EA.

Q. (By Mr. L. E. Lyon): Maybe this protractor is too large, but maybe you can use it to get an ap-

Testimony of Kenneth A. Wright.)

proximation, Mr. Wright, as to what that angular inclination is.

A. If you will provide me with all of it, Mr. Lyon.

Mr. Lyon: Give me that other piece there.

Q. Here is a smaller protractor, too. Here is a smaller [3132] protractor, Mr. Wright, which I think you will be able to read more directly.

A. I have placed in Exhibit EA a device which is a protractor, and the angular disposition of the wire in relation to the point where it touches the periphery can be estimated there, and the line of action, the line of force would be probably 30 degrees, perhaps 25, from the less than tangential, and very tangential, I mean a true tangent.

Q. That is between 25 and 30 degrees, as near as you can measure with the equipment that you have, is that correct? A. That is correct.

Q. All right. Now, take Figure 26, structure of bones. Are the wires' ends formed not only with balls on the ends, but with the section of the wires outward approximately an inch from the collar given an additional sidewise inclination? That is true, is it not, Mr. Wright?

A. That is correct.

Q. And in the structure which was used in the Kelley well, the same as illustrated by Exhibit FFFF, the wires are given not only a sidewise bend, as you have testified, but their outer ends are bent upward. What was the purpose of that upward bend, Mr. Wright?

(Testimony of Kenneth A. Wright.)

A. The upward bend, as shown in Exhibit FFFF, was provided so as to minimize the scratching operation while [3133] running into the well, and what I mean by that is running the casing into the well with the devices mounted thereon.

Q. You mean that from the top of the well to the point of where you wanted the scratching, you were trying to minimize the scratching operation?

A. That is correct.

Q. Now, at the Kelley well, which I believe you have testified to, and the record shows, it was run on December 31 of 1939. Did you encounter any problem which required you to stop lowering the casing into the well? A. Yes.

Q. What was that?

A. The observation by me was that we were taking from the wall of the well—taking off would be a better statement, an amount of filter cake which increased the viscosity of the fluid mud in the annulus as well as—to a point where it was so viscous the casing became logy, which is an oil-field expression, and would have prevented us from going much farther with lowering the casing in the well unless we resorted to a practice many, many years old in rotary drilling, that is, the running of casing in rotary-drilled holes, what we called breaking circulation while running in.

Q. Well, that is a good expression, but it leaves me kind of cold. What does it mean?

A. Well, the rotary-drilled well, as I have previously [3134] explained, has filter cake of varying

Testimony of Kenneth A. Wright.)

thicknesses on all the permeable strata. When you run the casing into the well, you disturb some of that, you might even take off an excessive amount due to some devices put on there and cause the casing, as I have previously stated, to become logy, and the cure for that, for the particular moment, is to break circulation, that is, to put on the circulating head, circulate and reciprocate the casing until you equalize the mud weight and reduce the viscosity of that fluid in the annulus by pumping it up out onto the surface and conditioning it, and carry on that operation, reciprocating the casing and circulating until a good job is done of the particular conditioning at that moment. When that is done, completed, then you remove the hose, remove the circulating head, and go back to running the casing again, and if the operation requires repeating, then you just go ahead and do it, and that is a practice that has been carried out, to my knowledge and observation, since 1921. [3135]

Q. All right, Mr. Wright, as I understand your testimony which is in your deposition copied into the record, you were actively present throughout the carrying out of this Kelley well operation, that is true, isn't it? A. That is correct.

Q. And was it necessary to stop and recirculate in your operation in the Kelley well?

A. It was necessary in the Kelley well to periodically stop the running of the casing, put the circulating head on, establish circulation, reciprocate the casing, condition the mud for the length of

(Testimony of Kenneth A. Wright.)

hole opposite the point where the shoe is positioned at that time, and then when that casing was good and free, and it was decided by those people present that everything was in good condition as far as the casing in the bore hole is concerned, the operation is completed. Now, I don't remember how many times we did it, exactly, that is, I mean, some five or six times during the total—during the period during which the casing was run.

Q. It was quite a critical event so far as you were concerned, wasn't it, Mr. Wright?

A. Extremely so.

Q. If you had stuck the casing in that well, you would not have gotten anywhere with the sale of these scratchers thereafter, would you?

A. It would have been extremely [3136] difficult.

Q. And that was practically your first commercial operation, wasn't it?

A. According to my recollection it was.

Q. But after recirculating five or six times, you finally did carry out the cementing operation, didn't you?

A. That is correct.

Q. Now, as a result of this operation, did you make any alteration or change in the wall-cleaning guide that you offered to the trade subsequently?

A. Yes.

Q. What did you do?

A. Altered the device to look more like this device here, Exhibit 104.

(Testimony of Kenneth A. Wright.)

Q. That is, you reduced the angular inclination of the wires from the tangent, is that correct?

A. Well, reduced——

Q. You reduced the sidewise inclination of the wires?

A. That is right, reduced the amount of the side-wise inclination.

Q. Did that eliminate the problem of stopping to recirculate in the use of the wall-cleaning guide?

A. In most instances, it does. [3137]

* * *

Mr. L. E. Lyon: Before I get beyond this point, your Honor, and so that the requested stipulation that Mr. Scofield asked with respect to Mr. Sweetzer of the use of wall-cleaning guides, that testimony of Mr. Sweetzer is in his deposition, which is Exhibit BZ-11, on the original, on pages 7 and 8, and the portion to which they are making reference is: He says that at the Kelly well. It was while he was with Kelly they did not use any more scratchers of any kind. But, he says: "After I went to work for the company I am now with we run them on every hole we have drilled." [3147]

"Q. And when did you go with this present company? A. In 1943."

So his testimony is that from 1943 to date he has used them on every well that they have drilled, but for the Kelly well, Kelly never used them [3148] again.

* * *

(Testimony of Kenneth A. Wright.)

The Witness: Mr. Lyon, this device here with 3½-inch tubing contains a feature which I think should be explained, and it is identical——

Q. (By Mr. L. E. Lyon): You mean Exhibit EB or which?

A. EB, I believe it is, 3½-inch tubing.

Q. This one (indicating)?

A. That is correct.

Q. You mean the fact that this tubing, like the other one, can be unscrewed to take the scratcher off?

A. That is correct.

Q. Which is not apparent without demonstration, and that is the reason in the case of Exhibit EB it is broken in one end and threaded in between the welding lugs to permit the scratchers to be removed, which is not a feature which is found in an oil-well drilling casing.

A. Well, the flush joint is common to the trade, but [3153] that particular application is not to be done in that particular manner.

Q. The only purpose of making it this way is so you can get it off?

A. That is correct.

Q. On the back of Exhibit EB—I will call it the back because we have described one face of it—is a section of a Multiflex scratcher wire, or is it a single Multiflex scratcher wire? It might be well to explain that Multiflex scratcher wire and why you have put it on Exhibit EB. Is that merely for the purpose of ease in explanation?

A. This Multiflex finger affixed to this sleeve of

(Testimony of Kenneth A. Wright.)

Exhibit EB is mounted so that the line of extension beyond the periphery is on a radius line.

Q. You mean the scratcher wire where it leaves the collar lies in a radial plane, is that correct?

A. That is correct, and to demonstrate that, when it is flexed into position, in going into operation in the well bore, it takes a position, as we view it from the top, and with the finger opposite the person's body making the observation, then, when this said finger is flexed upward, it takes a position which I will demonstrate, which cants it to the left—correction—which cants it to the right. On reversal it follows in a flexed position and becomes canted downward and to the left. [3154]

And upon being released it turns back to the position in which it was statically when I started the description.

Q. Then, this Multiflex scratcher wire, which is on Exhibit EB, is not mounted in the position that the Multiflex wires are in the Multiflex scratcher as exemplified by Exhibit 57, is that correct?

A. That is correct.

Q. In Exhibit 57 in which way do the wires flex in their different positions?

A. May I have Exhibit 57?

Q. It is right under the pile. That is the bottom one in the pile.

A. In Exhibit 57 the fingers which are being flexed into the well—while being put into a well or a hole of a diameter less than the outside diameter of the wire ends—will assume a position almost vertical, and as you cannot get down in the well to actually observe it, you can only assume that it

(Testimony of Kenneth A. Wright.)

does take a vertical position, and follow down the rim—the wall of the well bore—in an almost straight position.

And upon reversal, it swings over downward and more to the left than the other device I have previously described, which was the finger on Exhibit EB.

Q. The Multiflex scratcher has what I call the bundle of wires which are connected or held together by two [3155] devices which I call ferrules, one which is near the point of emergence of the bundle of wires from the scratcher collar, and the other is out about an inch from the end. What is the purpose of those two ferrules?

A. To bind the assembly of wires together so they operate as a single unit, as a single unit simulating a piece of wire of that diameter, which for some purposes is more flexible and being extremely more flexible than a solid piece of wire of that diameter.

Q. Now, Mr. Wright, does this Multiflex scratcher work on the same torque principle as the wall-cleaning guide? A. Yes.

Q. Will you just explain how the Multiflex scratcher operates on a torque principle? And by “torque,” I am using the word synonymous with the word “spring.”

A. Exhibit 57, a finger of the scratcher, Exhibit 57, comprising this bundle of wires, has a section beneath the clip extending through the length and beneath the clip and passing around a small metal,

Testimony of Kenneth A. Wright.)

ulated pin, and then returning outward. If you see this piece of wire before it is made up in its present form, it looks exactly like a long hairpin, and this in effect is five hairpins put together in a bundle so we have ten wires at this outer end, and this pin or locking pin, let us call it, at the extreme end here, houses this section of it which is held in this arcuate [3156] section so that when we flex the end we get a torquing of the section which is held in position beneath the clip, and to that extent it simulates the action of the section on the periphery, as this device here, which is Exhibit IIII.

Q. Now, Mr. Wright, is the Multiflex scratcher more or less expensive to fabricate than the Nu-Coil scratcher?

A. It is more expensive to fabricate.

Q. Is it more or less expensive to fabricate than the wall-cleaning guide?

A. It is slightly more.

Q. And the selling price, then, of the Multiflex scratcher with relation to the wall-cleaning guide and Nu-Coil is what, more or less?

A. The Multiflex sells for the most, the wall-cleaning guide for approximately the same, and the Nu-Coil scratcher sells for the least of the three.

Q. Now, you filed, I believe, or caused to be filed, an application for a patent on the structure of the wall-cleaning guide, is that correct?

A. That is correct.

Q. Who filed that application for you?

A. A patent solicitor by the name of James F.

(Testimony of Kenneth A. Wright.)

Abbott, located in the Roosevelt Building here in Los Angeles.

Q. Now, before we get into that, I would like to have Exhibits AY and AZ, and those are two catalogs of the [3157] Weatherford Oil Tool Company, if the clerk please, one being a black-covered one and the other being a blue-covered one.

There has been mention here, Mr. Wright, of what I have heard as the so-called Weatherford formula. I place before you Weatherford catalogs, Exhibits AY and AZ, and will ask you if you find any publication of that so-called formula in these catalogs of the Weatherford Oil Tool Company or the Weatherford Spring Company, and will ask you to explain that so-called formula with reference to your method as you have heretofore described it on the stand at this session?

A. My delay here is due to finding of this.

Q. Page 4920 of Exhibit AZ, the black one, Mr. Wright, I believe, is the first reference you want.

A. Reading from page 4920 of Exhibit AZ, starting at the center of the page, I read as follows:

“The Weatherford Cementing [3158] Formula”——

* * *

Q. Now, my question is, Is that formula any different than the method which you developed?

A. Well, there are some devices used here which do not have any—were not used in what I developed in my invention, but they are accessories which don't fit into the problem at all, according to my

Testimony of Kenneth A. Wright.)

pinion. And, if you care to, I will isolate those which do fit and those which do not fit.

Q. All right, you just go ahead and do it in a way convenient and best to make a comparison or differentiation, whichever is proper.

A. Well, in No. 1, the "Use of the Weatherford Hi-Column Cementing Head" has no place in the operation because the plugs can be released and have been released for many, many years, without stopping circulation.

This particular head that is described here is only a slight adaptation of ideas which are old in the art.

Q. Now, item No. 1 there, Mr. Wright, first includes, does it not, the proposition of continual reciprocation of the casing during cementing? Now, what is common to what you have described, is it not?

A. That is correct.

Q. Now, the remainder of item No. 1 is what you are pointing out now?

A. "Use of the Weatherford Hi-Column Cementing Head" is what I was addressing my first remarks to, before going on [3159] to the next section of that first sentence.

Q. Pardon me?

A. Having commented on the "Weatherford Hi-Column Cementing Head," the part beginning with "reciprocation of the casing during cementing" is exactly what my method describes, and that is in the following—the releasing of the plugs without stopping circulation, that has been done for many years by men, being positioned on the circulating head,

(Testimony of Kenneth A. Wright.)

that is, the head which is on top of the casing, and switching the plugs, and back in the twenties, I don't remember who the manufacturers were, they were working with heads of that nature, having latches and triggers to accomplish that.

And item 2, "Spacing of Weatherford Spiral Centralizers and Reversible Scratchers throughout the cement fill." Well, I don't use or require any Weatherford spiral centralizers to accomplish this result, but in my apparatus patent is a reversible scratcher, and the amount that the scratcher is used is optional with the operator, whether he wants it throughout the entire cement fill or only in the critical sections opposite the permeable strata. That is an opinion that rests with the operator of how much money he wants to spend and what he thinks his objectives are.

Q. Now, do you advocate placing the scratchers throughout the cement fill, or advocate using them at the [3160] critical sections of the well?

A. Well, that falls within the province of the purchaser and operator, and as a manufacturer it is considered my duty to explain to him the limits to which the device will give him results and what can be done by use of the devices, and if he wishes to buy more, that is his option.

Q. Well, what do you explain, Mr. Wright? Do you explain that it is your belief that they should be used throughout the cement fill or restricted to the critical sections of the well?

A. Well, all that are necessary to accomplish

(Testimony of Kenneth A. Wright.)

the cementation, to effect successful production from the well, is throughout the permeable section wherein the reservoir of the well is positioned, from which to take the production that you require.

Q. Well, do you sell on the basis of that premise or thesis?

A. We usually—we like to sell on the basis of having the operator use no more than the minimum required to effectively get cementation to produce the well without resorting to remedial operations.

Q. Now, isn't that the very converse of what is stated in item 2 of page 4920 of Exhibit AZ, where you advocate that they use the structure throughout the cement fill?

A. That is not a contradiction. That places in the [3161] hands of the operator what he wants to do, and to me there is a complete fallacy in presenting that point as far as "throughout the cement fill," because if we go back to the illustration I used, where there is a 10,000-foot well with a 51½-inch casing in it, and use the 600 sacks of cement and with the expectancy of having the top of the cement located at 1,000 feet above the surface, and if you do get that solid fill, cement fill, for that distance, then it certainly begs the question, How about the 9,000 feet, the remainder of that 51½-inch casing between the shoe of the surface casing and the top of the cement? It has no cement opposite it. So all you do is make complete cement fill in one place and leave it bare in another, so as to carry out the thought expressed here, inferentially, it would be

(Testimony of Kenneth A. Wright.)

to get cement fill from the shoe to the surface on every cementation, and that would bring in a lot of problems that are of a very, very difficult nature.

Q. Well, does one provision like that stated in item 2 on page 4920 of Exhibit AZ result in the selling of more or less equipment than you advocate?

A. It usually results in selling more equipment than what B & W would advocate or recommend, having seen the electric log and knowing the conditions of the particular well and field. [3162]

* * *

Q. (By Mr. L. E. Lyon): You have testified that following the recommendation of section 2 of page 4920 of Exhibit AZ results in the sale of a greater quantity of equipment, that is correct, is it not, Mr. Wright?

A. That is the usual result, yes.

Q. Now, from the standpoint of your experience and actual observations of wells, can you state a particular well and give me an example of what you mean by a greater quantity of equipment?

A. Well, the Kelley well would be an instance of a well of that nature.

Q. All right. Now, following the two procedures, as you advocate them and as advocated by section 2 on page 4920 of Exhibit AZ, what would be the difference in the amount of equipment used, in dollars and cents?

A. That would be impossible to state at this

(Testimony of Kenneth A. Wright.)

time, [3163] without having knowledge or a correct memory of the amount of cement that Mr. Sweetzer selected to use on that particular well, and seeing a caliper survey of the well, it would be impossible to tell how much equipment would have been required to carry out the suggestion of item 2 on that page 920.

Q. Well, besides the Kelley well, haven't you been on actual wells that you have made that comparison on, Mr. Wright?

A. Well, at the present moment I cannot recollect, although in the Rogers report is a good example of scratchers being positioned at the critical points in the particular well and the effective cementation resulted and satisfactory production obtained. [3164]

I think we might have a little further explanation here that would be helpful. Many, many operators—and I mean by operators employees of oil companies—have for many years more or less established, you might say, uniform volumes of cement that they use in cementing or setting casing in particular areas. And at one time I used the figure "600 sacks." The figure 500 sacks for years was more or less a set custom, more or less proceeding on the theory that if a little was good, a lot was better. And so, upon determining how many sacks of cement that an operator was favorable to, that is, his attitude was favorable to using this amount that he had been using for a considerable time, and the employees of the company before him, why, then

(Testimony of Kenneth A. Wright.)

the attitude was taken that: Well, if we are going to use 600 sacks of cement or 500, let us say, then your cement is going to rise so high, and then by plain arithmetic computation, you will need so many scratchers and centralizers. So that more or less makes up the whole story, but it started with the fact that the operator was prejudiced in favor of using some set number of sacks of cement to do the job, and not a particular determination from his electric log. [3165]

* * *

Q. All right. We have gotten through item 2 of this so-called Weatherford formula. Will you take up item 3?

A. Item 3 reads as follows:

“Use of the progressive circulation practice of running casing, developed and refined by Weatherford.”

Well, I understand the “progressive circulation,” that is, I am assuming “progressive circulation” is identical to breaking circulation while running in.

And you note the words “practice of running casing.” Well, I certainly contradict most firmly “developed and refined by Weatherford.” I don’t know the refinements, but we have been breaking circulation while running in with casing, to my positive knowledge from standing on the rig [3167] floor, since 1921.

Q. With the use of scratchers on the casing; that is what you did in the Kelly well, isn’t it?

(Testimony of Kenneth A. Wright.)

A. When you have scratchers with sufficient angular relationship to remove that amount of mud to where the viscosity rises to such a point that you do not get returns while running in, then you have to resort to so-called breaking circulation or, as it is described here or named, progressive circulation. In my understanding they are one and the same.

Q. All right. Now, referring to item 4 of this so-called Weatherford cementing formula, will you continue your explanation with reference to that?

A. Reading item 4:

“Constant moving of the pipe up and down during the cementing operation to assure circulation.”

The constant moving of the pipe up and down during cementing operation is what I have stated in our bulletins, and that is the operation which does the scratching or abrading. So that goes back to the period of Jones and the operation of the wall-cleaning guide and its first sales.

Q. Does or does not that constant reciprocation assure that channeling will not result?

A. The last three words on item 4 state: “to assure circulation.” I am just a little bit puzzled what might be meant there, but the moving of the pipe up and down during [3168] the cementing operation accomplishes two things: Scratching of the surface opposite the scratchers where they are positioned, and the elimination of channeling of cement through the drill mud in the annular space.

Q. As far as you understand the so-called formula of Weatherford as it is set forth in item 4,

(Testimony of Kenneth A. Wright.)

then, it is no different from what you did at the Kelly well, is that correct?

A. That is correct, with the statement that those last three words be stricken.

Q. In item No. 5 of the so-called Weatherford cementing formula will you make the same comparison there?

A. I will read No. 5:

“Constant, planned weight of cement to meet the conditions of the well being cemented.”

The American Petroleum Institute has for a long time made observations, and the cementing companies have collaborated with those, so that the planned weight of cement—and “weight,” as I understand that, means in terms of pounds per cubic foot of slurry. The manufacturers of the cement give you the recommendations for what the weight of slurry, that is, the water-cement ratio, that you should use with each of the cements that they provide. So I can’t see that that does anything except to ask the cement company, after determining what kind of cement you are going to use, what the water-cement ratio would be, and they provided for [3169] you previous to that. So I don’t see where that adds anything to the over-all picture.

Q. Then as I understand your testimony with reference to this Weatherford cementing formula, there is one difference between what you advocate, and that is the difference between the recommendations of scratchers and centralizers throughout the cement fill, as differentiated from the use of scratch-

(Testimony of Kenneth A. Wright.)

ers only at the critical area; is or is that not correct?

A. That is incorrect, because I excluded the spiral centralizers. So, if you will exclude that, then your statement is correct.

Q. What difference does the inclusion or exclusion of the spiral centralizers mean there? Does it mean anything as to the carrying out of the scratching operation? A. None whatsoever.

Q. You also have before you Exhibit AY. Is there any statement in that catalogue with respect to this so-called Weatherford formula? In that regard I will refer you to page 5019 of that catalogue, and to the item 6 and to the items directly in the column entitled "Functions."

A. On page 5019 of Exhibit AY I find under the paragraph entitled "Functions" in No. 5:

"With Reversible Scratchers and Spiral Centralizers employed throughout the calculated cement fill, and manipulated according to the Weatherford Method, [3170] channeling mud in mud, cement in mud, cement in cement, and by-passed mud and cement back into the cement column is virtually impossible."

Well, that is just saying the same thing as said over here in one of these others, and a little bit more elaborately, but when you get cement fill, those words will just about take care of most of that.

No. 6:

"By employing the progressive circulation technique with these tools, blowouts are eliminated be-

(Testimony of Kenneth A. Wright.)

cause mud of the proper type and weight is re-established in all diameters of the hole in place of gas cut mud.”

* * *

A. Item 6. Reading from this exhibit, page 5019——

The Court: This is part of your explanation, is it?

The Witness: That is correct, your [3171] Honor.

“By employing the progressive circulation technique with these tools, blowouts are eliminated because mud of the proper type and weight is re-established in all diameters of the hole in place of gas cut mud. Only scratchers of the correct spread and type will cut up old gas-laden mud in cavities and other irregularities of the hole and divert new mud into its place to create a fluid block to stop the gas from traveling up the hole.”

Well, addressing myself to the first part of it, the “progressive circulation” is identical as described in Exhibit AZ, and association of blowouts with that particular operation puts a little different attitude or slant on it in this respect: That when you are running casing in the well, assuming you have float shoe or float collar on the bottom, that is, a float collar would be at the top of the first joint or thereabouts, and when you remove too much filter cake from the wall of the well while running in, you will note that you do not get any return circulation each time you lower a joint into the well.

Testimony of Kenneth A. Wright.)

Now, the lowering of a joint of casing into the well is a case of something of positive displacement nature. You should get, if the hole is full, an overflow in volume identical to the volume of the particular joint of casing that you lower. [3172]

Now, if you do not get that, that is one of the signs that experienced men become a little bit uneasy about, and if it continues long enough, why, there is trouble in it. And because, if you do not know where the top of the fluid is in the annulus, that is to say, if you can't see it and it does not actually spill over each time you lower in a joint, you don't know whether it is down a hundred feet or 500 feet, or it might be thousands of feet, and then it is critical.

Q. (By Mr. L. E. Lyon): Why?

A. Because you might expose a sand having either water or gas or oil, with sufficient bottom-hole pressure to blow out in the annular space. So while you run casing, you might end up with a blowout. So, as I want to re-emphasize, when you do not get returns while running in, experienced men know that they had better make a note of it and not let the condition get too exaggerated or very serious trouble might result. So that is more or less an acknowledgment of that particular fact.

That is the way I interpret that, as a person having had some 36 years of experience, associated with the drilling of oil wells. So that is new as far as what is disclosed in the previous Exhibit AZ.

It might be said that since the use of the float

(Testimony of Kenneth A. Wright.)

shoe, float collar in our use, unless it becomes faulty in operation, [3173] the well can't blow out inside the casing; it can only blow out in the annular space.

The remainder of that paragraph refers to—well, that is, you might say, taking some liberties. Strike that.

I mean that is a person's idea of what the scratchers do when you do break circulation and circulate out the mud which has been quiescent for the period which you withdrew the drill pipe, rigged up to run casing and got the casing back in the hole to that particular depth.

Q. Now, Mr. Wright, in the very second paragraph of page 5019 is a statement with respect to alternating the Weatherford scratchers. What does that mean? [3174]

A. Well, the statement just speaks for itself as far as I am concerned. We do not follow that practice and get constant success, so I can't see it adds anything.

Q. You have got two Weatherford scratchers. It talks about mounting them, one clockwise and the other counterclockwise, doesn't it?

A. That is correct.

Q. Does that refer to the direction in which the bristles extend? A. That is correct.

Q. Does that refer to the direction in which the bristles extend? A. That is correct.

Q. So you would mount them, in accordance with that one which I have holding here in my hand,

(Testimony of Kenneth A. Wright.)

with the bristles running clockwise, and then the next one would be reversed, with the bristles running counterclockwise, in accordance with that paragraph, wouldn't you?

A. That is my interpretation of this paragraph 2.

Q. Just as I am holding these up?

A. That is correct.

Q. Does your company ever advocate mounting any of your scratchers in reversed relation?

A. No, they have not.

Q. Did you ever know of anybody ever using your [3175] scratchers in such reversed relation?

A. I have never seen them mounted on a casing in that manner, nor has anyone ever told me that they mounted them in that manner.

Q. All right. In your opinion, is anything accomplished by such reversal?

* * *

The Witness: No. In my opinion, nothing is accomplished beneficial to the well whatsoever.

Q. (By Mr. L. E. Lyon): Now, you can explain your answer if you desire to.

A. Well, this criss-cross pattern, if we may call it that, as outlined in this particular catalog, I think, was [3176] innovated by Mr. Hall in about 1947 or thereabouts. That is the first time I have any recollection of having seen it in his advertisements. So that begs the question: What did he do for the other seven years—have failures or what?

(Testimony of Kenneth A. Wright.)

The Court: It could be a slight improvement, could it not, and not be revolutionary, or not indicating past failures?

The Witness: Your Honor, I don't believe there is a single bit to be gained because——

The Court: Does it do any harm, in your opinion?

The Witness: It would not do any harm, but the striations are vertical so they do not make a criss-cross pattern on the path of the well at all. They are all making vertical striations.

The Court: In your opinion, the result would be the same?

The Witness: That is correct.

The Court: If the scratcher wires were all operating in the same direction?

The Witness: That is correct, your Honor.

* * *

Q. (By Mr. L. E. Lyon): Mr. Wright, have you concluded [3177] your statements with reference to this second catalog, Exhibit AY, concerning this so-called Weatherford formula?

A. Well, I think I have. But, to the particular part of which might be called the Weatherford formula, still I am a little bit unclear in my mind what are the limitations of it.

Q. You have stated the only differentiation that you can see between what you used in the Kelley well, is that correct? A. That is correct.

Q. Mr. Wright, you have produced another en-

(Testimony of Kenneth A. Wright.)

enlargement, enlarged photograph of, I believe, Figure 27 of Jones and Berdine Report. I will place before you that enlarged photograph and ask you to state what it is.

I ask that it first be marked Exhibit FW.

The Court: It will be so marked.

Mr. L. E. Lyon: For identification.

(The photograph referred to was marked Defendants' Exhibit FW for identification.)

A. This Exhibit FW is an enlargement of Figure 27 of Exhibit X and represents——

Q. (By Mr. L. E. Lyon): When was this enlargement prepared?

A. I do not recollect how long, but it has been more than a year that we have had—for more than a year and a [3178] half that we have had in our possession enlargement of this particular Figure 27 of Exhibit X.

Q. That enlargement, Exhibit FW, is only a portion of Figure 27 of Exhibit X, is it not?

A. That is correct.

Q. And which portion is it?

A. This—would you mind writing on there what exhibit is this?

Q. FW.

A. ——Exhibit FW enlarges the central section of the Figure 27 of Exhibit X, cutting off the lower portion and the upper portion of that particular photograph so as to bring it——

(Testimony of Kenneth A. Wright.)

Q. There are three cement billets shown in Figure 27 of Exhibit X, are there not?

A. That is correct.

Q. This is an enlargement of a section of which one of those billets?

A. The billet on the left of the picture, that is, the first one counting from the left, and excludes the second and third ones.

Q. And that billet was the billet which was recovered from the well making the test on which form of scratcher, Mr. Wright?

A. This billet is the product of Jones carrying out [3179] the test run, whatever number was given, in which he produced this billet which is photographed here on Exhibit FW and recovered from the operation, and canvas removed so that inspection could be made of the operation performed by the scratcher during cementation.

Q. This enlargement shows what? And by "this enlargement" I mean Exhibit FW.

A. FW is the——

Mr. Scofield: We would stipulate that, your Honor, it shows one portion of that Figure 27 billet.

Mr. L. E. Lyon: That is not the answer which I am seeking. I will accept the stipulation.

Mr. Scofield: Also, the photograph shows what it shows. I don't see why this witness need explain it.

The Court: Proceed. Overruled.

A. Figure 27 is the billet produced by placing scratchers identical to those disclosed or described in Figure 26 of Exhibit X on the casing, the 31½-

(Testimony of Kenneth A. Wright.)

inch casing of the Jones work, placing it inside the steel casing to which the canvas lining in which it had been positioned, carrying out all the operations described in Jones, which are the cementation, together with the reciprocation during the cementation. Thereafter the whole operation was allowed to remain quiescent to permit the cement to set. The simulated well was then laid out on the ground, the steel casing removed, the [3180] canvas permeable section removed, and a photograph taken of what the billet looked like. And it represents the operation of the scratcher wire ends removing the filter cake which had been deposited on the wall, interior wall of this simulated well, which was on the canvas lining. And, as I say, the billet thereafter speaks for itself.

The extremity of the travel of the scratcher is indicated very clearly, because there is a reduced diameter starting with a very determinable point, and that point represents where the filter cake was not removed and results in a reduced diameter of the billet produced by the operation.

Q. (By Mr. L. E. Lyon): All right. Now, Mr. Wright, there are certain long striations shown in Exhibit FW. Have you an explanation of those striations? [3181]

A. My explanation of those striations is that they represent the path of the wire ends when moving up and down against the canvas bag and shifting over at the top and bottom of these screws, so as to

(Testimony of Kenneth A. Wright.)

accomplish that amount of mud cake removal and scratching of the canvas sack.

Q. Now, you have referred to certain striations there. Will you just mark with the word "striation" on this photograph Exhibit FW to which you are referring——

A. Well, it would be impossible to——

Q. Now, just pick out one of them. You can't mark them all. A. Single "striation."

Q. Now, there are other striations shown in this photograph which are of less intensity. Will you mark those "Striation A" or mark the ones of greater intensity "Striation A"? You have marked one of less intensity.

(The witness writes on said photograph.)

Q. Now, on Exhibit FW, you have marked the centermost, what I would consider the deepest striation, as "Striation A" and the striation next to it is marked with just the word "Striation." Have you an explanation for the difference in intensity of those two striations, Mr. Wright?

A. Well, it is conjecture inasmuch as no one can get down in the well or the simulated well and make observations of just when the filter cake was removed, and what I mean by [3182] that is the amount removed by each individual wire end moving up and down against the wall of the canvas; and I would point to the fact that there are many, many more scratches than there are wires on the device, and that is the pertinent point, and we have

(Testimony of Kenneth A. Wright.)

where the same type of operation in every respect that we have in the well bore, a primary filter cake, removal of it simultaneously, with the deposition of a secondary filter cake and reciprocation of the casing, during that period, which is scratching, the face of the simulated well bore followed by reciprocation during the period the cement slurry passed by and there has to be a sweeping out of all of the mud fluid before cement fill is accomplished. So, the end product of it is this billet with this number of striations on it greater than the device itself has, and the observed observation of Mr. Jones is that in his opinion it was complete cement fill or words to that effect.

Q. Now, Mr. Wright, on Exhibit FW, you have a certain number of what appear to be major striations like Striation A, one of greater intensity, have you not? A. That is correct.

Q. And in between those greater striations or those more intense striations you have some that are not so visible or not so intense, one of which you have marked with just the word "Striation," is that correct? A. That is correct. [3183]

Q. Now, do you account for greater intensity in some of the striations than in the others and, if so, how? A. There again——

Q. I am asking for your opinion, Mr. Wright, just state it. A. My opinion?

Q. Yes.

A. Well, there are so many conjectures. The device may not have rotated—or may have rotated

(Testimony of Kenneth A. Wright.)

past a point and bent the next wire, so that deposition was sufficient during that period to make what results in a cavity.

Q. Well, do or do not this difference in striations give any indication of the fact of rotation of the scratcher?

A. Well, the pertinent point is that there are more striations than there are fingers.

Q. And what does that show?

A. That the device rotated.

Q. And isn't that the purpose for which this enlargement, Exhibit FW, was made, to demonstrate that fact?

A. That is correct. [3184]

* * *

Q. I hand you, Mr. Wright, a detached Multiflex scratcher finger. I believe you described this structure yesterday as attached to a collar. Is this a true sample of the Multiflex scratcher finger?

A. It is.

Q. That illustrates the hairpin wires hooked over the retaining pin on the clip. Will you just point that out? [3189]

A. The pin that I described yesterday is this little tailpiece folded up into an upright position, permitting the loop to pass over and hold it, retaining it from slipping out, and permits a base point from which to do the twisting and torquing and winding up.

Q. The entire spring-winding of the individual wires, that is against that little clip or pin, is it?

(Testimony of Kenneth A. Wright.)

A. That is the base point, the fixed point from which to establish the twisting and torquing of the wire.

Q. And, as this clip is secured to the collar of the scratcher, it is by spot-welding at these four ears at the two ends of the clip; is that correct?

A. That is correct; and exemplified by the fingers mounted on Exhibit 57.

Q. So that the bundle of wires inside of the clip is free to wind up within the clip?

A. They are flexible within that length of that housing.

Mr. L. E. Lyon: I will offer the separated wire, marked as Exhibit FX, in evidence as FX. [3190]

* * *

Q. (By Mr. L. E. Lyon): Mr. Wright, I believe that we had gotten to the point of the Kelly well operation. What was the next commercial operations or operation of B & W in the sale and use of scratchers?

A. Well, I do not recall the next sale of scratchers at this particular moment. But shortly——

Q. The next ones that you do recall, were those the sales to the Union Oil Company?

A. Yes, sir.

Q. In the Rosecrans wells?

A. Shortly after the Kelly well we sold some scratchers to the Union Oil Company.

Mr. Scofield: We will stipulate that, your Honor, if they say they are. The Rosecrans records are in evidence in the public use proceeding, Rosecrans wells 38 and 39, the Calendar wells.

(Testimony of Kenneth A. Wright.)

The Court: Are they in evidence here?

Mr. Scofield: Yes, sir.

Mr. L. E. Lyon: Yes, sir. That testimony of this witness and also the records of the Union Oil Company are in evidence as to that sale and that use.

Q. In those wells, the Rosecrans wells 38 and 39, I believe you have a map, Mr. Wright, which shows the [3191] location of Rosecrans 38 and 39 wells with reference to the Kelly well. Will you produce that?

A. I gave it to you, Mr. Lyon, to be marked.

Q. Oh, that is in one of these that was marked. You are correct; it has already been marked.

I place before you Exhibit FL for identification and will ask you if you can tell me what that is.

The Witness: What number did you say, FL?

The Reporter: FL; yes, sir.

A. This Exhibit FL is a map of the Rosecrans oil field, not the entire field, but a part of it located in Los Angeles County in the area of South Main Street.

Q. (By Mr. L. E. Lyon): On this map you have circled the Kelly well and also the Rosecrans wells 38 and 39. Will you just mark, taking a pen, the Kelly well with the words "Kelly well" and the Rosecrans wells with their names, "Union 38" and "Union 39"?

Mr. Scofield: We are willing to stipulate this, your Honor; that is, the map itself shows that the

(Testimony of Kenneth A. Wright.)

plot of land there is the Union Oil Company and below the "Union Oil Co." is "Rosecrans" and above the wells are numbered 38 and 39, and the wells have been circled in the map that was furnished me. So I do not believe there is any necessity.

Mr. L. E. Lyon: The only reason I wanted to mark them is so they will be apparent. Of course, they are circled, [3192] and if you look hard enough you can find "38" and "39" on them.

I will accept the stipulation and I will ask the witness to mark them and I will offer the map in evidence as Exhibit FL.

* * *

Mr. L. E. Lyon: You have circled the Kelly well here. Just put an arrow on it and write out here "Kelly well" and lead to the circle.

You have the 38 and 39 wells. Just put "Union 39" and "Union 38" and put an arrow to the circle. Nobody will have any trouble finding them then.

The Court: Those markings are being made on Exhibit FL?

Mr. L. E. Lyon: That is right, your Honor.

The Witness: I have marked the Exhibit FL in accordance with your instructions.

Q. (By Mr. L. E. Lyon): What scratchers, Mr. Wright, were used by the Union Oil Company in the Rosecrans wells 38 and 39 marked on Exhibits FL Union 38 and 39?

A. Scratchers similar to Exhibit 104, without having been deformed as much as this one has by someone. [3193]

(Testimony of Kenneth A. Wright.)

Q. You have studied the logs of those wells which are in evidence, have you?

A. I have studied the tour reports which are a part of the logs.

Q. You are also familiar with the operations of the Union Oil Company in the use of your scratchers at that time?

A. Well, I assume they followed out instructions that were given to them.

Q. Well, was there any difficulty encountered in using the scratchers in the Rosecrans wells 38 and 39?

A. An examination of the tour reports shows they ran casing to bottom without having to break circulation while running in.

Q. The A.P.I. meeting was held on March 19, 1940. You were there? A. I was.

Q. And you have also referred to your Bulletin 101, which is in evidence as Exhibit CR, a copy of which I place before you, Mr. Wright.

And may we have the same stipulation, Mr. Scofield, that Bulletin 101 was printed and distributed by B & W prior to the A.P.I. meeting of March 19, 1940?

Mr. Scofield: Yes, I will so stipulate.

Mr. L. E. Lyon: I will accept the stipulation.

Q. You were present at the A.P.I. meeting on March [3194] 19, 1940, given at the Biltmore Hotel, were you? A. I was.

(Testimony of Kenneth A. Wright.)

Q. That was a regional or sectional meeting of the A.P.I., was it?

A. I think it is sectional, although I am not quite certain. The title page of the paper will clear that up, whichever it is. [3195]

Q. And you were present while Mr. Jones gave his report, were you? A. I was.

Q. You testified that Mr. Jones gave his report from slides, rather than from strictly reading his report, is that correct? A. That is correct.

Q. Do you recall what Mr. Jones said, if anything, about the mounting of the scratchers on the casing, at the time he gave his report?

A. Yes.

Q. What did he say?

A. Mr. Jones stated, and at the time while he was making the statement, used a pointer to point out the stop rings above and below the scratcher, and made the statement that the device was mounted on the casing so as to be free to slide between those vertical stops, and free to rotate on the casing, simultaneously rotate on the casing.

Q. This A.P.I. meeting was an open meeting of the American Petroleum Institute, was it?

A. It was.

Q. And no invitation was required to be there, was it? A. There was not.

Q. It was a public meeting, then?

A. Yes, it was. [3196]

Q. After this A.P.I. meeting did anything happen to your business? Just strike that a minute.

Before the A.P.I. meeting you had sold scratch-

(Testimony of Kenneth A. Wright.)

ers, as the testimony shows, to the Union Oil Company and the Texas Company. Had you sold them to anybody else that you recall?

A. Well, the Kelly well, and I think there was one other. My memory is not quite distinct at this moment.

Q. What happened after that A.P.I. meeting to your business?

A. Our business of selling these scratchers increased monthly and our area of sales increased until, by June of 1940, Mr. Barkis and I concluded that it was safe to extend our business to the Gulf coast area. And so Mr. Barkis went to Houston and opened an office there and started selling these guides to the industry, and from that built up a business selling scratchers to the drilling section of the oil industry.

* * *

Q. (By Mr. L. E. Lyon). At the time of the A.P.I. meeting did you have any discussion with any particular [3197] individual connected with any oil company with respect to Mr. Jones' presentation of the report to the A.P.I. meeting?

A. I talked to—I was with Mr. Barkis when a Mr. Bell, known as Ham Bell, of the Continental Oil Company, approached him and conversed with Mr. Barkis.

Q. And that conversation was had at the A.P.I. meeting? A. Directly after Mr. Jones' paper.

Q. Were you three the only ones that were in that conversation?

(Testimony of Kenneth A. Wright.)

A. There were only the three of us present.

Q. And Mr. Bell was connected with what company?

A. Continental Oil Company, Los Angeles regional office.

Q. Did Mr. Bell have any comment to make with reference to the report that was given by Mr. Jones? If so, state what it was.

A. Mr. Bell stated that he had received a copy of our Bulletin 101. I don't remember what he said he did with it. But after listening to Mr. Jones: please provide him with another copy at once, because he was so favorably impressed with what had been disclosed in the Jones paper and he intended to carry out the use of the scratchers in the Continental Oil Company operations.

Q. Did the Continental Oil Company start purchasing scratchers from you immediately following the A.P.I. report and your conversation with Mr. Bell? [3198]

A. Shortly thereafter we sold scratchers to the Continental Oil Company.

Q. And continued to sell scratchers to the Continental Oil Company from then on?

A. We have.

Q. I hand you, Mr. Wright, a series of B and W invoices and ask you to refer to these. I don't know that they are in order, but here the first one on the top of the stack is Westmont Oil Company and

(Testimony of Kenneth A. Wright.)

dated April 29, 1940, and it states it was ordered by Mr. Roulston. Are you familiar with that invoice? A. I am.

Q. Do you know who Mr. Roulston was?

A. No, I don't recall Mr. Roulston but I do remember Mr. Dickey.

Q. Who was Mr. Dickey?

A. He was the superintendent for the Westmont Oil Company in that particular area. He might have been their head tool pusher.

Q. This invoice indicates a sale, starting on April 29, 1940, to the Westmont Oil Company, does it not? A. That is correct.

Q. Of what?

A. Six wall-cleaning guides for 7-inch A.P.I. casing at \$7.50 each. [3199]

Q. I notice marked on that is "Job #9." Do you know what that refers to? That is in pencil, I believe.

A. My recollection is it might have been the ninth sale of scratchers, although it is approximately correct.

Q. I also hand you one of April 30, 1940, to the St. Anthony Oil Corporation. What is that for?

A. Ten wall-cleaning guides for 7-inch A.P.I. casing at \$7.50 each.

Q. That has on it a notation of a "verbal order" by whom? A. Mr. Adams.

Q. Do you know Mr. Adams?

A. Yes, I know Mr. Adams.

Q. Who was Mr. Adams?

(Testimony of Kenneth A. Wright.)

A. He was the superintendent in charge of operations there in that area.

Q. Do you recall whether these Mr. Dickey and Mr. Adams that you have referred to were at the A.P.I. meeting? A. I don't know.

Q. You don't know whether they were or not?

A. No, I don't.

Q. Now, I hand you a further invoice, of May 6, 1940, to Texas Company, ordered by a Mr. Bourgeois. What is that name. It is a French one.

A. Oliver Bourgeois. [3200]

Q. Who was Mr. Bourgeois?

A. It is my recollection that Mr. Bourgeois was the warehouseman or some part of the purchasing department of The Texas Company.

Q. Located where?

A. At their Signal Hill office which did all the purchasing for the Southern California area.

Q. I hand you another invoice, of May 14, 1940, to Convoy Petroleum Co., indicating, does it not, this set of invoices, that you were still using that pad of dime-store invoices originally and then substituted later the printed form which is on top, Mr. Wright?

A. That is what it indicates to me.

Q. This order also states on its face that it was ordered by Jack Rogers. Who was Jack Rogers?

A. Mr. Rogers was either a tool pusher or superintendent for that particular company.

Q. I hand you a further order, of May 2, 1940, addressed to "Union Oil Company, Santa Fe

(Testimony of Kenneth A. Wright.)

Springs," and on the face of this order is in pen "Job #31." Does this refer to job—What does that mean?

A. Well, that indicates to me that we had sold scratchers for use in 31 operations.

Q. By the date of May 2nd?

A. 1940. [3201]

Q. 1940. All right. Here is an invoice to Hilldon Oil Company, of May 14, 1940, and on the face of that is "Job #35," and this indicates that this was an order received by Mr. C. Winslow. Who was C. Winslow, do you know?

A. He was an employee of that company.

Q. I notice that there is a typewritten and penciled delivery slip attached to this invoice. Is that what you were using for delivery tickets at that time, Mr. Wright?

A. That is correct.

Q. This invoice has on its face "Job #35." Does that have the same significance as the other notations on the face of the invoices?

A. That is correct.

Q. The next one of those is a sale to Western Gulf Oil Company on May 14, 1940, having on its face "Job #36" and referring to Mr. C. P. Stanfield. Do you know who he was?

A. I am not quite sure. There was a Mr. Stanfield working for that company at that time, according to my recollection, but I don't personally know him.

Q. On May 24th, the next invoice in this stack has on its face "#39," which I presume is Job No. 39,

(Testimony of Kenneth A. Wright.)

and the sale is to McKeon Corporation; and it says "Delivery to Cal-Mac Exchange #3" on the face of that. Do you know what that refers to?

A. That was the name of the well which McKeon Corporation were drilling. [3202]

Q. I notice, Mr. Wright, that there is some skip in these invoices that I have in front of me between the job numbers. Is this all of these old invoices that you have been able to find to produce?

A. That is correct.

Q. Following through, I note that this job numbering apparently stops with the sale to the Union Oil Company on June 25, 1940, and that that invoice has on it "Job #49." That, I presume, refers to the 49th sale of scratchers, is that correct?

A. That is my recollection.

Q. And it was about that time that you established the Houston office, is that correct?

A. Approximately that time.

Mr. Scofield: What date was that?

The Witness: June 25, 1940.

Q. (By Mr. L. E. Lyon): So that the next invoice I find in this stack is an invoice of sale to the Howard Supply Company on July 25, 1940, and that invoice carries both the Houston and Long Beach addresses, which is not true of "Job #49." No. "Job #49" has both of them on—no, it does not. Neither does this one. A. Neither does this one.

Q. Pardon me. That is Los Angeles and Long Beach.

(Testimony of Kenneth A. Wright.)

A. I don't think any of those—— [3203]

Q. None of those have. These are all Long Beach invoices. So that, prior to March 19, 1940, you had sold probably about five jobs, is that correct?

A. That is approximately correct.

Q. And by June of 1940, you had sold 49 jobs, is that correct?

A. That is what these records indicate.

Q. Did your business continuously increase and expand to other oil companies from then on?

A. It did.

Q. I notice that these early invoices—an invoice here for sale to the Baker Oil Tool, Inc., of July 31, 1940, of one scratcher. Baker Oil Tool is a company which is in competition and selling scratchers now, is that correct?

A. They are selling scratchers now but did not at that time. [3204]

* * *

Q. Was there any job that you know of, and do you have any records showing any sales, prior to the sale to the Kelly well, Mr. Wright?

A. I have no recollection or records of any previous sale.

Q. In fact, you have looked for such prior sales, have you not? A. That is correct.

Q. And been unable to identify or find any prior records? A. That is correct. [3205]

* * *

Q. (By Mr. L. E. Lyon): You referred, Mr.

(Testimony of Kenneth A. Wright.)

Wright, to a sale to one other oil company prior to the A.P.I. meeting on March 19, 1940. I think that the invoice for that sale was among the invoices which were handed to me and that invoice is directed to the Pongratz Oil Company. Do you identify that, a sale as of February 17, 1940?

A. I can identify this sale as a sale to Mr. Gus Pongratz.

Q. Was that the other sale which was made prior to the A.P.I. meeting to which you had reference?

A. That is the one I had in mind when I made the response.

Mr. L. E. Lyon: Just couple this invoice with those that are in that Exhibit FY for identification so that it is available under that marking for identification.

The Court: Very well, so ordered.

Q. (By Mr. L. E. Lyon): Mr. Wright, you have referred in your testimony to this matter of progressive circulation [3206] in the operation of the use of scratchers. I believe you have called my attention to the fact that this matter is discussed, also the matter of operation, in the Stormont article, and you desired to point out from that article what you have reference to. That Stormont article is in evidence.

* * *

Mr. L. E. Lyon: Either 65 or 66. The reprint is 65. Here it is, Exhibit 65. The Stormont article is a part of the Exhibit 65.

(Testimony of Kenneth A. Wright.)

Q. Will you point out what you desired from that article, Mr. Wright?

A. On page—I find the pages are not numbered, so I will have to refer to it as the page in which is an illustration of cementing operation up in the upper left-hand corner, in the upper right-hand corner is a photograph of a number of men, one of whom is Mr. J. E. Hall, Sr. And on the third column, second paragraph, it reads:

“While casing is being run in the hole, ‘progressive circulation’ is employed; that is, after [3207] each 800 ft. of casing is added to the string, running operations are halted while drilling mud is circulated. These halts to circulate, and at the same time reciprocate the casing, aid the operation by:”

Mr. Scofield: “Casing string.”

A. “Casing string,” that is correct, by the following things; and that has reference to the breaking circulation while running in that I mentioned in my testimony yesterday.

Q. (By Mr. L. E. Lyon): Now, Mr. Wright, you have produced certain oil field maps heretofore marked as Exhibits FM and FN for identification. I place these maps before you and ask you to explain them. First, I will ask you if these are produced by you as being typical of illustrations of oil field geological formations?

A. Well, this is typical of what we find in most of the oil fields of the world of these types.

Q. All right. Now, will you explain what these exhibits show and what you mean by “of this type”?

(Testimony of Kenneth A. Wright.)

A. Well, Exhibit FN, which is photostated from the bulletin handed out at the American Association of Petroleum Geologists meeting held in Houston, Texas, on March 31, through April 5, 1941, under the sponsorship of the Houston Geological Society, and in a booklet which was obtained, called "Guide for Field Trips," we find a plan view of the [3208] Hastings Oil Field in Brazoria County, Texas, the plan view giving the configurations of the contours and the various fault blocks with the surface trace indicated of the faults, with the up and down sides indicated. And the cross-section, which is the other part of that particular print, illustrates in cross-section what we encounter and the number of faults in the average drilling of a well in faults of that character. And below that is a short resume of the history of the field, when it was discovered and by what particular discovery methods used, and the company and date, and things pertinent to the actual discovery and earlier production of the field itself.

And it illustrates the point that I was making yesterday, that drilling of wells in fields of this nature you actually pass through numerous faults and it is very pertinent to the problem to confine the cement slurry to the annular space that you drill, that is, the annular space between the casing and the wall of the well, and not let it get free to run laterally through the various fault planes, and this is a number of major faults discovered at the time, which is 1941, in this particular field.

And this second one is a similar—

(Testimony of Kenneth A. Wright.)

The Court: What number?

The Witness: FM. Pardon me.

A. —is a plan view of the Conroe oil field in [3209] Montgomery County, Texas, showing the identical type of thing and the amount of faults intersected on a particular cross-section.

There, again, it illustrates the point I was bringing into clarity, that is, of not having erratic fill in the annular space which would indicate that cement slurry had gotten away from you and gone into unknown parts of the field.

Mr. L. E. Lyon: I will offer these two maps heretofore marked FN and FM for identification in evidence as Exhibits FM and FN.

* * *

Q. (By Mr. L. E. Lyon): Mr. Wright, referring to the scratchers in question and referring to scratchers like Exhibit IIII, would you state that the scratcher fingers or wires are flexibly attached to the supporting collar? A. They are. [3210]

Q. Is that also true of the scratchers like Exhibits 104, CK, and 57 before you?

A. They have that feature in common. All of the wire fingers are flexibly attached to the collar.

Q. Now, just explain how they are flexibly attached. [3211]

* * *

A. Referring to Exhibit IIII, the wire fingers starting with the clip which holds the one end in position—and I mean by that the end other than the

(Testimony of Kenneth A. Wright.)

end which does the abrading—it is held in position by a portion of it passing through a hole in the clip and then it passes along the outer periphery of the collar or sleeve, through slots in these bridges, and the slots are only guides for holding it in a nominal position, let us say. It does not restrict it from torquing or turning when a torque is applied at one end or either end. And after passing beneath the tenth clip it has a curved section, and then this arrangement that I have just described permits flexing of the outer wire end and torquing the section beneath the clips without in any manner confining it to this torque. So it is flexible in that manner.

Q. (By Mr. L. E. Lyon): Is there any difference in that respect in the flexible mounting of the other exhibits that you have pointed out?

A. I would further add that the finger itself is made [3212] out of spring steel wire and of a dimension which permits certain amount of flexing when applied to the wall of the well bore.

And in furtherance of your question, all of these devices have that common feature, including the Multiflex which is the Exhibit 57, and the torque section in that particular case is held beneath a clip which is not identical to the clip in Exhibit IIII but the same mechanical application or principle is there, and, as the fingers' outer ends are moved about, why, the flexible mounting permits this flexing in the mechanical structure of the device.

Q. Is there any difference in the flexible mount-

(Testimony of Kenneth A. Wright.)

ing of the scratcher found in the Nu-Coil scratcher as illustrated by Exhibit 72, Mr. Wright?

A. The same basic principle of torquing the section of the wire just adjacent the sleeve itself.

Q. And a flexible mounting here, and the torque is imparted by the coil spring in this structure of Exhibit 72, is it? A. That is correct.

Q. Does it function in any way different from the torque mounting of Exhibit IIII or 104, Mr. Wright? A. None whatsoever.

Q. Is it true to say that all of these mountings and scratcher fingers depend upon a spring attachment to the [3213] collar?

A. That is a general term that could be applied to all of them.

The Court: By "all of them" you are referring to?

The Witness: Pardon. Referring to Exhibit 72, Exhibit 57, Exhibits 104, IIII, and CK.

The Court: Are those all B & W scratchers?

The Witness: Yes, your Honor.

Q. (By Mr. L. E. Lyon): Mr. Wright, in the year 1940, sometime after the A.P.I. meetings, you applied for a second patent; is that true?

A. That is correct.

Q. And that patent is the so-called apparatus patent 2,374,317, the application for which was filed December 10, 1940, and which is here Exhibit 38. I will place a copy of this patent before you, and following the same procedure as you did before, will

(Testimony of Kenneth A. Wright.)

you just briefly and broadly define the invention you made of this patent? In the first instance——

* * *

A. This patent No. 2,374,317 was applied for by myself through a Mr. James M. Abbett, patent solicitor here in the City of Los Angeles, and carries out my thoughts in [3214] providing a device which could carry out the operation of the method patent which was then on application. I had in mind the necessity for a device which could be affixed to the casing, a device which would be made cheaply and provide this most fundamental element of a wire logger to abrade the wall of the well bore, have it of construction which would be durable enough to last for the period required for the operation.

I might point out, in case it has not been observed, these devices are cemented in the well on the casing and, to that extent, they are 100 per cent consumption articles in most instances; so they are to that extent one-trip tools, you might say, although in the plugging operation they are recovered, but that is a very small portion of their usage.

The device had to be of a construction which would permit the casing to be lowered into the well without hazarding that operation, and permit of the fluid to pass through the fingers and not retard the downward surge of the fluid when lowering the joint-by-joint casing string into the well. And so, with all those thoughts in mind, this particular apparatus which is like Exhibits IIII and CK and 104 was

(Testimony of Kenneth A. Wright.)

developed and subsequently presented to Mr. Abbett and told to prepare a patent application and forward it to Washington for filing.

Q. Before that application was filed did you supply Mr. Abbett with a copy of the Jones and Berdine report? [3215]

A. During the period that the method patent was being processed, or whatever the proper word is for what happens in the Patent Office, I provided Mr. Abbett with a copy of the Jones and Berdine report, that is, one of the actual mimeographed copies that I obtained that day when the report was given. And he made mention of it in one of his responses to a Patent Office action and I find it is in the file wrapper of the patent making mention of the fact that he is forwarding it to the Patent Office.

Subsequently, when this apparatus patent was applied for he had that before him and he had a Bulletin 101 and a device similar to Exhibit 104 when the application was actually prepared.

Q. Mr. Wright, it has been pointed out that this patent No. '317 in no place shows the mounting of the scratcher or defines that the scratcher is rotatable upon the casing. Did you receive any advice from Mr. Abbott with respect to that matter before the application was filed? A. I did.

Q. And what was that advice?

A. He stated that that particular feature was not patentable; that to mount things rotatably on casings or shafts was very old in the art, and said it was not necessary.

Testimony of Kenneth A. Wright.)

Q. And that was before the application for this patent, Exhibit 38, was filed in the Patent [3216] Office?

A. That is correct.

Q. The patent, Exhibit 38, pictorially shows what scratcher, Mr. Wright?

A. It shows a scratcher similar to Exhibit CK.

Q. In that respect are you differentiating between Exhibits CK and 104, Mr. Wright?

A. Well, there is no difference in the Exhibits 104 and CK, except for date of manufacture, although I don't know when this Exhibit 104 was manufactured.

Q. You subsequently applied for a third patent, Mr. Wright, and that is the patent which is in evidence as Plaintiff's Exhibit 39. I will hand you a copy of that patent and ask you to give me a thumb-nail sketch of the invention of this patent.

* * *

A. It is patent No. 2,392,352, was applied for by me through the same Mr. James M. Abbett, filed August 5, [3217] 1941. I recognized that there was the same identical problem in the making clean contact or bond between the cement that you place in the well as a slurry and having it obtain the bond with the formation itself.

So having that objective, why, I applied for this patent, which was subsequently issued, because there is basically the same problem of removing the filter cake opposite the permeable section of the well bore to obtain a clean bond and seal at that particular point fluids from moving upward and downward, as

(Testimony of Kenneth A. Wright.)

well as to provide a bridge or plug from which other operations, such as whipstocking and things of that nature, might be carried out.

Q. This patent is referred to as a plugging patent, I believe. What does that mean, Mr. Wright?

A. In the open bore hole of a well we pump in cement slurry to be positioned in a solid vertical section, and if it starts from the bottom of the well, we ordinarily call it a plug; if it starts from a point above the bottom and extends upward, we ordinarily call it a bridge. But I believe they are identical, which is oil man's language.

Q. What is the plugging or bridging operation carried out for?

A. Well, if you had, for instance, drilled too deep in a well and encountered a water strata and wished to isolate that from the section above which you deemed to be [3218] productive, before setting the liner in the well you would pump in this cement plug so as to position it through the vertical section of the permeable strata, or extend the plug shortly up into the shale above. And then you would be safe to set the liner in the well and be assured of not having the water from that particular strata commingle with the water or gas from your well.

Another operation, if you wish to whipstock—whipstocking means placing a device in the bore hole so as to deflect the drill—and you must place the whipstock on something solid. Then if you do

[Testimony of Kenneth A. Wright.)

not place it on the bottom of the hole, you must place it on something solid or else the drill, when you are trying to deflect the well over to the new course, will actually follow down alongside the whipstock because, without the use of these scratchers in putting the plug into the well, the cement would simulate, you might say, just a little core of cement in the well, with a heavy ring of filter cake around it. So your whipstocking operations, you may make four or five attempts before you get off the plug, as we call it, get off the whipstock.

Q. In your method patent of Exhibit 37, that is the '372 patent, I believe the method contemplates the cementing of the scratcher in the well, does it not? [3219]

* * *

A. That is correct, together with the casing.

Q. (By Mr. L. E. Lyon): Now, is that true of this Exhibit 39 patent?

A. No, that is distinctly different.

Q. And in that respect—what is that difference?

A. That in the plugging operation you would draw the scratcher and scratchers—it would be singular or plural—together with whatever they are mounted upon, up out of the plug or bridge, leaving the cement in place without having any tube or scratcher in it.

The Court: How can that be done—wait until the cement sets and then draw it up?

The Witness: No, your Honor. The cement is a slurry of fluids when you pump it in, and we ob-

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tain what we call a balanced conditioned by—I can illustrate it this way: [3220]

If you are going to position a plug in a well bore from, say 5,000 feet up to 5,050 feet, that was the plug you wished to set or make in the well, you would take a drill pipe or tubing and mount scratchers on it for a distance of 50 feet and lower it into the well to where that bottom of the drill pipe or tubing that had the scratchers mounted upon was at 5,000 feet. Then you would establish circulation. You would then mix a volume of cement slurry which would be equal to the total volume of the space of the hole from 5,000 feet up to 5,050; and, of course, the diameter would be the one part of your calculation and the height would be the other. And you determine, let us say, for instance, it required 50 cubic feet of slurry. Then the 50 cubic feet of slurry would be mixed at the surface, pumped into the drill pipe or tubing, and it would go downward to the drill pipe or tubing to the lowermost end which was positioned at 5,000 feet, and then turn and start upward in the annular space. And during that period prior to the cement slurry actually arriving at that point, you would either reciprocate the casing so as to provide the scratching action, or rotate, depending on the type of scratcher you had mounted on it.

In pumping it down, the amount of mud fluid which you would use to, you might say, pump it into place, simulates a pipeline where they slug

(Testimony of Kenneth A. Wright.)

through certain quantities of [3221] certain grades——

The Court: Force it?

The Witness: Well, say the cement slurry does not occupy the entire space of the drill pipe or tubing from the 5,000-foot level surface, it makes up that 50 cubic feet. It goes into the drill pipe and goes downward as I have described it.

The Court: It goes down first?

The Witness: That is correct. But mud fluid behind it used to pump it into place, to force it into place, is then carefully metered, that is, volumetrically, and you would then pump in that mud an amount of mud fluid, the volume computed as the result of knowing the volume per foot of the drill pipe or tubing times 4,950 feet.

The Court: Enough to force out the 50 feet?

The Witness: All but the 50 feet. Leave 50 feet inside of the tubing, and then you would have a balanced condition on the inside. Then you have equilibrium conditions by the hydrostatic head inside the tubing and outside of your annular space.

The Court: Presumably the cement slurry has gone out of the tubing then?

The Witness: Pardon me, your Honor. Not quite yet. As soon as that balanced condition is arrived at and the man at the cement truck knows it because he has metered the [3222] fluid very carefully, shuts the pump off. That means he won't pump any more fluid in. At that moment the driller pulls the drill pipe or tubing with the scratcher up out of

(Testimony of Kenneth A. Wright.)

that cement slurry, so the bottom end of his assembly then is above the 4,950-foot mark. So he has left in the well this column of the cement slurry, without any mechanical apparatus in it. So we have got cement 100 per cent in cross-section of any vertical section.

The Court: That would be true when you plugged the bottom of the hole?

The Witness: That is correct.

The Court: If you made a bridge, you could not recover it?

The Witness: You would follow the identical procedure, your Honor, and just start it wherever you wish. If the well is 5,000 feet in depth and you wish to place a bridge in the well, starting from 4,000 feet up to 3,950, you would follow out the identical operation in every respect.

Q. (By Mr. L. E. Lyon): You balance your columns of fluid with mud on the opposite side of the cement, that is all? A. That is correct.

Q. So you can stop the plug at any point in the hole you want by that balance?

A. That is right, because the minute you stop the pump it will come into equilibrium condition because of its [3223] specific gravity; and if you get too unbalanced, you commingle mud with cement slurry.

Q. And you form a solid plug across the hole in that operation, as distinguished from an annular ring in the first patent? A. That is correct.

(Testimony of Kenneth A. Wright.)

Q. That solid plug is called either a bridge or a plug, depending upon its position in the well?

A. That is my nomenclature, and I think that prevails for the most part of the industry.

The Court: In the case of the bridge, the cement slurry would be a column of mud starting out, wouldn't it?

The Witness: That is correct. There would be mud fluid from the 4,000-foot level down to the bottom of the well. When we start the operation, the hole is assumed to be full of fluid at the top.

The Court: Is there any danger of that cement plug or bridge sinking, then?

The Witness: No, your Honor. That does not happen. The viscosities of the two fluids are sufficiently close to each other to maintain an equilibrium condition there and the cement won't actually settle down into the mud.

The Court: It will remain ultimately set there?

The Witness: It will remain there, but if you establish a tube through it and get it in condition where you get the [3224] hydrostatic or hydraulic forces, then it will move. Under those conditions it will remain there and set in place.

The Court: And the specific gravity of this mud fluid is predetermined in some way with reference to the slurry?

The Witness: No. You would use your ordinary drilling fluid, which, for the most part, will weigh between 72 and 80 pounds per cubic foot; that is,

(Testimony of Kenneth A. Wright.)

most drilling operations are carried out within that range with water base cuts.

The Court: And what of the cement slurry?

The Witness: It will weigh 117 to as high as 125 pounds per cubic foot, just about almost twice the weight of the ordinary drilling fluid.

The Court: How do you compensate for that mixing when you make the bridge?

The Witness: Mixing, or do you mean after you pulled up out of it it would fall?

The Court: Yes. How do you keep the cement slurry from falling down into the mud?

The Witness: I say, the viscosity of the two fluids are sufficiently the same, even though the weights are different that you don't get the thing—it will remain there, and you do not get the condition of the weight of one in contrast to the weight of the other through a tube.

The Court: The disparity of the viscosity is enough?

The Witness: That is principally it, yes. [3225]

The Court: Irrespective of the weight?

The Witness: And the fluid exerts the load similar to a piston one upon the other. My fingers like that, you might say, and the viscosity is an aid in establishing that general picture. [3226]

Q. (By Mr. L. E. Lyon): Now, Mr. Wright, you are familiar with the organization known as Scratchers, Incorporated? A. I am.

Q. Scratchers, Incorporated is or was a corporation, was it not?

(Testimony of Kenneth A. Wright.)

A. I believe it still is as of this particular moment.

Q. Who are the stockholders of Scratchers, Incorporated?

A. Myself, Mr. Barkis and I believe one of his sons residing in Texas, somewhere near Liberty, Texas; another gentleman in Houston, Texas, that I for the moment can't remember but I will ask him and obtain it; Mr. Barrick of Pasadena, California, and Mr. Donald R. Wright, my brother, attorney in Pasadena.

Q. Scratchers, Incorporated acquired by purchase a patent which I will identify as a Black and Stroebl patent, is that correct?

A. That is correct.

Q. And Scratchers, Incorporated filed certain suits, the complaints or files of which are in evidence.

Now, does Scratchers, Incorporated still own the Black and Stroebl patent which is Exhibit 172, a copy of which I place before you, as far as you know, Mr. Wright?

A. As far as I know, it does.

Q. Now, state whether or not those actions, as shown [3227] by Exhibits 143, 144, and 145, the files of which I place before you, were instituted by Scratchers, Incorporated, to your knowledge, on advice of counsel.

A. Exhibit 143 was, I am certain.
Exhibit No. 144 was.

And may I refer again to Exhibit 143? Yes, Ex-

(Testimony of Kenneth A. Wright.)

hibit 143 was and 144 was and 145 was, according to my inspection here.

Q. Now, these suits were all subsequently dismissed by stipulation. Do you know any reason why it was stipulated that the suits be dismissed, Mr. Wright? A. Yes, I do.

Q. What was that reason? ..

A. On advice of you. You said that it is just beyond comprehension to have that much litigation in operation and you advised me to discontinue this litigation as promptly as you, in your method, would obtain it or could obtain it.

Q. Now, at that time, when I gave you that advice and these suits were still pending, not only these three suits as shown by Exhibits 144, 145, and 143 were pending, but there was this suit pending, was there not? A. That is correct.

Mr. Scofield: We will stipulate that, your Honor.

Q. (By Mr. L. E. Lyon): There was a suit brought in Texas against B and W by Weatherford Oil Tool Company involving the scratcher situation and filed in Houston, was [3228] there not?

A. That is correct.

Q. There were suits filed in Louisiana, Houston, Pecos, and one other point I believe, undisposed of, involving the centralizer situation, wasn't it?

Mr. Scofield: At Corpus Christi.

Mr. L. E. Lyon: At Corpus Christi. That is all stipulated to, is it not?

Mr. Scofield: Yes, it is stipulated, and it may

(Testimony of Kenneth A. Wright.)

also be stipulated that the firm of Lyon & Lyon brought those suits.

Mr. L. E. Lyon: That shows on the face of the Exhibits 143, 144, and 145. It is so stipulated.

The Witness: There is no answer required, then, is there?

Mr. L. E. Lyon: No. It is stipulated.

Q. So that there were then pending some 11 or 12 suits, were there not, when I advised you that the number would have to be cut down?

A. That is correct.

Q. And I expressed to you my opinion that it was impossible for any lawyer or any client to successfully prosecute that number of suits at one time, didn't I?

A. That is my recollection of what you stated.

Q. And that is the only reason that you know of, or the only reason that was ever expressed to you, as to why the three Scratchers, Incorporated suits, Exhibits 143, 144, [3229] and 145, were discontinued?

A. That is correct.

Q. And at that time it was also possible for me, was it not, to get a stipulation dismissing the Scratchers suit in Houston, so that the number of suits was cut down by four, isn't that correct?

Do you so stipulate, Mr. Scofield?

Mr. Scofield: Well, I will stipulate that the Houston suit was dismissed.

Mr. L. E. Lyon: At the same time.

Mr. Scofield: About the same time.

(Testimony of Kenneth A. Wright.)

Mr. L. E. Lyon: And by the same stipulation, without prejudice to the parties.

Mr. Scofield: No, not the same stipulation. There were stipulations in each case.

Mr. L. E. Lyon: Yes.

The Court: I don't quite follow you. Where do the four come in?

Mr. L. E. Lyon: The three Scratchers suits and the original suit, I mean the three Scratchers, Incorporated suits and the original suit, which is Civil Action, I believe, No. 5168 in Houston. It was dismissed at that same time.

Mr. Scofield: Then we filed the Houston suit, your Honor. [3230]

Mr. L. E. Lyon: A couple of years later.

The Court: Well, there was a scratcher suit in Houston, Exhibit 145.

Mr. Scofield: Yes, sir. That is [3231] Exhibit 145.

* * *

Q. I place before you, Mr. Wright, Exhibit AI, and this letter establishes, does it not, the date when you were advised by the Patent Office that the Hall applications, Serial Nos. 388,891 and 528,183, had been abandoned and were no longer pending before the Patent Office? The exhibits 1 and 2 are those applications. [3233]

A. I do not quite understand you, Mr. Lyon. Just a moment and I will read that.

Q. Well, that is a letter from the clerk of the Patent Office, and that is the date when you first

(Testimony of Kenneth A. Wright.)

knew that the Hall applications, Serial No. 388,891, Exhibit 1, and Serial No. 528,183, Exhibit 2, had been abandoned and were no longer pending before the Patent Office?

Mr. Scofield: Mr. Lyon, why don't you make a complete statement of it and tell how the letter was received, that is, the inquiry that was made by Mr. Wright——

Mr. L. E. Lyon: There wasn't any inquiry made by Mr. Wright.

Mr. Scofield: Well, he sent on an assignment, I believe.

Mr. L. E. Lyon: Well, this letter which you received was received by Mr. Hails in response to forwarding of the assignment for recordation, by which you attempted to assign these two applications from you to B and W, did you not?

The Witness: That is correct.

Q. (By Mr. L. E. Lyon): And this letter advised you that these two applications had been abandoned, did it not? A. That is correct.

Q. And therefore the date of May 17, 1946, the date of this letter, establishes that it was after that date and the date when this letter was received, Exhibit AI, that you knew of the abandonment? That is all I am trying to get at. [3234]

A. That is correct.

Mr. Scofield: We will stipulate it.

Mr. L. E. Lyon: Thank you. I will accept the stipulation.

Q. All right. Now, after this notice of abandon-

(Testimony of Kenneth A. Wright.)

ment that you received, you later learned, at a conference had with Mr. Scofield in the California Club, that an application, Serial No. 627,013, had been filed, did you not? A. That is correct.

Q. And that a copy of that application as filed was given to you and examined by you and Mr. Maxwell, was it not?

A. I am not exactly certain of what was given to me, and the reason I say that, I am not familiar, completely familiar, with all the Patent Office procedures and documents. I did, I know, get a copy of drawings and claims. I distinctly remember that there were those two things. Beyond that I am uncertain because I don't think I recognized quite what they were.

Q. Subsequent to that time, in fact in June of 1947, you offered to the Gulf Research and Development Company for their consideration scratchers like Exhibit 88, did you not?

A. What date did you say?

Q. It was June or July of 1947, was it not? I said it was subsequent to both of these dates, of the California Club meeting and the receipt by you of the letter, Exhibit [3235] AI.

A. That is correct.

Q. Now, when was it, if it wasn't in——

A. My recollection is that I sent——

Mr. Scofield: There is a letter in evidence, your Honor, which is an exhibit here, as of the time that he sent that on, and I am willing to stipulate that.

The Court: What exhibit number?

(Testimony of Kenneth A. Wright.)

Mr. L. E. Lyon: What is the exhibit number?

The Witness: The letter is dated June 30, 1947, as I recollect it. [3236]

* * *

Mr. L. E. Lyon: As there has been one apparently offered in evidence and lost, will you read that and see if we can stipulate that it is a copy of the one that has been lost, so that it can take the place of the lost one? To me that is a copy of the same letter.

Mr. Scofield: Yes, that is the one.

Mr. L. E. Lyon: All right, let us have this marked as Exhibit 64 so we can get it stipulated that is Exhibit 64. [3237]

(Said document was marked as Plaintiff's Exhibit No. 64.)

The Court: According to Exhibit 86(1) for identification, the plaintiff's exhibit list, Exhibit 64 is a letter of June 30, 1947, from Wright to Wescott of Gulf Research and Development Company. Is that the letter?

Mr. L. E. Lyon: That is the letter.

The Court: Is that the letter now being marked Exhibit 64?

Mr. L. E. Lyon: Yes, sir.

The Court: Pursuant to stipulation.

Mr. L. E. Lyon: Yes. [3238]

* * *

Q. (By Mr. L. E. Lyon): Now, Mr. Wright, you forwarded, according to Exhibit 64, two of these scratchers, Exhibit 88, to the Gulf Research

(Testimony of Kenneth A. Wright.)

and Development Company under date of June 30, 1947. Prior to your sending of these two scratchers like Exhibit 88 to Gulf Research and Development Company, had you been advised by anyone, by any counsel, as to your right to manufacture and sell and offer for sale scratchers like Exhibit 88?

A. I had.

Q. By whom?

A. By Mr. William Maxwell, who was then my patent counsel, at that time.

Q. Will you state just what his advise was to you at that time, and let it be shown right here in the record that it has been stipulated that Mr. Maxwell is now deceased, and I believe that is already stipulated on the record——

Is it not, Mr. Scofield?

Mr. Scofield: Yes, Maxwell is dead.

A. Mr. Maxwell stated, after reading the claims and other material which Mr. Scofield had provided, that, [3239] relating to this Application No. 627,013, the stud mounting, to which he had addressed claims in that particular application, had been on sale and in public use for four years or more, which was easily seen by examination of his advertisements, the angle that the wire projected from the sleeve was required to be an exact tangent, in precise mechanical precision, and, in addition to that, Mr. Maxwell stated he was, in his opinion, quite doubtful as to what part might be termed “continuation in part” and referred to the text of

(Testimony of Kenneth A. Wright.)

the patent as calling for this so-called "unusual arrangement." So it was his advice that the device similar to what is shown here as Exhibit 88 could be made by anyone in the trade and be free and clear of any claims which Mr. Hall might obtain in the Application No. 627,013.

Q. (By Mr. L. E. Lyon): Now, was it upon that advice that you proceeded to offer these structures of Exhibit 88 to the Gulf Research and Development Company for consideration?

A. That is correct.

Q. And these two devices were sent to the Gulf Research and Development Company as shown, and were they subsequently returned to you?

A. Well, I think your question might have included this device, Exhibit 88, and this was for 7-inch casing, and the letter states they were scratchers for 5½-inch casing, [3240] so——

Q. Well, were those 5½-inch scratchers sent with that letter—sent as referred to by that letter of June 30, 1947, Exhibit 64, subsequently returned to you?

A. They were returned to me in the year 1948, upon my request.

Q. And that is shown by Exhibit YY, your letter written to Mr. Wescott requesting that they be returned, is it not?

A. I don't know the exhibit number, but I did request it the following year and they were returned to me, and my examination showed that they

(Testimony of Kenneth A. Wright.)

had, as far as I was able to determine, never been tested in any manner whatsoever.

Q. That is, the two scratchers like Exhibit 88, except for size, were returned to you and showed no evidence of having been used or tested or anything else? A. That is correct.

Q. Did you have a conversation with the Gulf Research and Development Company or the patent department for the Gulf companies with respect to these exhibits, these two scratchers like Exhibit 88?

A. I did.

Q. When?

A. On September 8th and 9th of 1947.

Q. You had more than one conference then, on two days? [3241] A. That is correct.

Q. Where did they take place?

A. In Pittsburgh, Pennsylvania, in the Gulf Oil Corporation's building in that city, in the law library.

Q. All right. Now, who was present?

A. Mr. Harold Decker, attorney, of Los Angeles, California, myself, Mr. A. M. Houghton of the Gulf Research and Development Corporation, Mr. L. W. Vollmer of Gulf Research, and Mr. B. B. Wescott of Gulf Research, and, additionally, there was a young man that I don't recall his name, who was an assistant to Mr. Houghton, who was probably present 20 per cent of the time or maybe less.

Q. Littlehales?

A. No. It was not Mr. Littlehales. Mr. Little-

(Testimony of Kenneth A. Wright.)

hales was in Washington and this gentleman stayed in Pittsburgh.

Q. All right. Now, will you state what conference was had with reference to the scratcher like Exhibit 88, at that time and place, and do I understand from your statement that the conference continued over two days at the same place and all the same parties were present at both times?

A. The conference lasted for parts of two days and took place in the same room of the same building, but Mr. Wescott left either the afternoon of the first day or shortly after the next morning, so he was not in attendance for the entire [3242] period.

Q. Otherwise, the same parties were present at all times?

A. But Mr. Vollmer and Mr. Houghton were present as well as myself and Mr. Decker, for that entire period.

Mr. L. E. Lyon: May it be stipulated that Mr. Houghton was the patent lawyer in charge of the patent department for the Gulf Research and Development Company?

Mr. Scofield: Yes, it will be so stipulated.

* * *

Q. (By Mr. L. E. Lyon): Now, will you give the conversation that was had over that two-day conference by the parties present with respect to the scratchers like Exhibit 88, Mr. Wright?

A. On the afternoon of the first day—and my recollection is that it was a Monday—I asked Mr. Houghton if he had decided to give his approval for

(Testimony of Kenneth A. Wright.)

the Gulf Oil Corporation [3243] to purchase devices similar to Exhibit 88, and he replied, and I am giving the substance of his conversation as I recall it, that he had not as of that time but was seriously considering it, and wanted Mr. Decker and myself to state our position with respect to our rights or position in offering it to the Gulf corporations.

It is my recollection that I repeated Mr. Maxwell's advice about the claims which Mr. Hall could obtain and those which had gone into the public domain, and covered all of Mr. Maxwell's statements as best I could, and pointed out to him the advertisements of Mr. Hall, which dated back to 1941, which apparently Mr. Houghton at that time had not reconciled with the application because he did have in his possession at that time what appeared to me to be a complete history of Mr. Hall's applications. In fact, he said he did have power of inspection and had a file which he said referred to them.

So, upon hearing my position, he said the Gulf in their operations had a very firm policy of wanting more than one supplier for any piece of equipment or apparatus which the company used, they were very anxious of always having a competitive condition, that is, having the suppliers in a competitive position, so that they could obtain best quantities and best qualities and best prices.

So he immediately asked me how many could I make and [3244] for what price would I make them

(Testimony of Kenneth A. Wright.)

and what quantities could I deliver over a certain period of time.

I do not recall the figures I gave him as to quantities. I did give him some estimate as to dates and I quoted him prices which would be the same as Mr. Hall was offering them at the time, which was almost the same as I recall that our wall-cleaning guides were offered in the market.

So, the conference closed on Monday with that, I might say, position to be rediscussed in the morning, that is, the following morning, which would be Tuesday.

We convened again on Tuesday morning at about 9:30 or 10:00 o'clock in that same room, and Mr. Houghton asked me to repeat the counsel which Mr. Maxwell had given me, which I did, and questioning went on for some length, and discussions of that nature.

So, after perhaps a half-hour of exchanges in that respect, Mr. Houghton said, well, since we had closed the evening before he had contacted Mr. Thomas E. Scofield and he had stated that Mr. Wright and his attorney Decker were in Pittsburgh and were offering the scratchers similar to the two that he had, that were previously sent as shown by this letter of June 30, 1947, and said he had given Mr. Scofield what our position was in relation to his—what might be the substance of his Application No. 627,013, and he said Mr. Scofield had stated to him that he was going to— [3245]

(Testimony of Kenneth A. Wright.)

Mr. Scofield: Now, this is hearsay, your Honor. I object to anything that I said to him.

The Court: It will be received as part of the conversation, not for the truth of what was said, as to the verbal act.

Mr. L. E. Lyon: Your Honor, as to what Mr. Scofield testified to is stipulated in Mr. Houghton's deposition, that he took exactly what he said. He asked Mr. Houghton, "Did I call you and state that?" Mr. Houghton said, "Yes."

"And if you say I did, I did."

Mr. Scofield: It was not in respect to this, your Honor.

Mr. L. E. Lyon: It certainly was with regard to this.

The Court: Well, the record will show.

Mr. Scofield: The record will show exactly what transpired.

The Court: Proceed. Houghton reported to you that Mr. Scofield had said——

The Witness: That Mr. Scofield had said that B and W could not offer those scratchers or sell them to Gulf because he was going to obtain claims in his then pending Application No. 627,013 which would cover, or "read on" was the expression he used, the device which we had forwarded there, the two 5½-inch scratchers.

So Mr. Houghton said, in view of that, he was not going to carry on any further discussions about prices or volumes or deliveries, and with respect to this type of those [3246] particular scratchers.

(Testimony of Kenneth A. Wright.)

Q. (By Mr. L. E. Lyon): Did Mr. Houghton tell you at that time in that conversation that Mr. Scofield said that if Gulf bought those scratchers he would sue the Gulf?

A. He didn't say it in those exact words. Mr. Houghton said, "I am not going to buy your scratchers or recommend to Gulf that they do buy your scratchers, because I am not going to take the risk of having the Gulf Oil Company sued by Mr. Hall and Mr. Scofield," so he said, "You will have to convince me further that you have the right, and that is my position, because I am not going to get Gulf Oil Corporation involved in a lawsuit."

Q. Was anything ever further done then by B and W with respect to the scratchers like Exhibit 88, other than the request that the two of them sent to the Gulf be returned to B and W?

A. None whatsoever. But an incident happened there before that meeting closed which was as follows: Mr. Houghton—

Mr. Scofield: What date was this, Mr. Wright?

The Witness: The same date.

Mr. Scofield: When was it?

The Witness: September 9, 1947.

A. (Continuing): Mr. Houghton said, "If you, Mr. Decker and Mr. Wright, can obtain from some patent counsel"—[3247] and he offered to provide us with the names of several firms who would pass an opinion upon what Mr. Hall would obtain or could obtain in this Application No. 627,013—he would review their decision or statement, and if the

(Testimony of Kenneth A. Wright.)

people were of sufficient substance, or whatever remark he used, then he indicated that he would probably recommend to the Gulf that they would purchase some.

And so we asked him for recommendations, Mr. Decker not being a patent attorney, and he gave us the name of a Washington firm in whom he said he had his complete confidence in a matter of that nature, and he gave us the name of a firm, Darby, Cushman & Darby, I believe is the name. It might be Darby—the other way around.

Mr. L. E. Lyon: Cushman, Darby & Cushman.

The Witness: And so Mr. Decker and I returned—and we indicated that we would contact this firm, and he stated, “And now it is understood that you will keep me advised on all the matters relating to these scratcher patents and those matters so that I will be fully informed at all times.”

To which Mr. Decker and I said we would.

Upon returning to Los Angeles, Mr. Decker did contact Darby, Cushman & Darby, that is, after having talked with Mr. Maxwell two or three times, and started to provide them with the material which they requested, and this was handled by Mr. Decker at that time, and before those—[3248] and before that thing was finally arranged with this firm in Washington, D. C., and I have reference to the date of December 10, 1947, we were sued by Mr. Hall and through his attorney, Mr. Scofield, and that localized the operation to this area, and I employed the firm of Lyon & Lyon to take up the main prob-

(Testimony of Kenneth A. Wright.)

lem thereafter, and we stopped any correspondence with Darby, Cushman & Darby.

Q. (By Mr. L. E. Lyon): Now, you have one other matter there which you referred to, in the Stormont article, which you desire to direct attention to, if the court has just a moment, so we won't have to go back to that. Will you please state what that is?

A. With relation to this, what I term erratic fill, your Honor.

The Court: And referring now to Exhibit——

Mr. L. E. Lyon: Exhibit 65.

The Witness: Exhibit 65, is that right?

The Court: Exhibit 65?

Mr. L. E. Lyon: Yes.

The Court: All right.

The Witness: In the article by Mr. Stormont, I read as follows:

“The hole caliper surveys were used as the basis for determining the volume of cement required and an arbitrary excess added to insure [3249] the cement column reaching the uppermost scratcher. However, comparison of the actual and calculated amounts of cement and the resulting cement top showed there was little consistency in the proper percentages of cement to be added to the calculated amount. (See accompanying table.) In some wells a 16 per cent excess brought the top of the cement about 235 feet above the top scratcher, while in others a 14 per cent excess resulted in the top being

(Testimony of Kenneth A. Wright.)

825 feet below the top scratcher. Therefore, Mene Grande has adopted the policy of using 20 per cent excess in areas where hole-size characteristics are not well known.”

And that illustrates what I was talking about as the erratic top of the fill. [3250]

* * *

Q. Mr. Wright, I place before you Exhibit CV-1. I will ask you if you recognize that scratcher?

A. I do.

Q. The scratcher is, is it not, a Weatherford close tolerance scratcher? A. It is.

Q. And that scratcher was purchased by you personally, I believe?

A. It was purchased by B & W through my instructions.

Q. From what company?

A. Howard Supply Company of California.

Q. That scratcher, Exhibit CV-1, is like what, Mr. Wright?

A. It is identical to a close tolerance scratcher which Mr. Hall placed in evidence during the Patent Office proceedings, during the period that we took depositions in Houston in the early part of 1953.

Q. Do you recall, Mr. Wright, the number given to that exhibit or letter given to that exhibit in the Patent Office? A. No, I do not. [3270]

* * *

Mr. L. E. Lyon: That was applicant's exhibit 49 of the Patent Office proceedings.

(Testimony of Kenneth A. Wright.)

Mr. Scofield: Of the public use.

Mr. L. E. Lyon: Of the public use, yes.

Q. Mr. Wright, I place before you three scratchers which have heretofore been marked as exhibits—I will get them in order—EG, EI, and EK for identification, marked by me. I will ask you if you know what these scratchers are? If so, tell us what they are. A. I do know what they are.

Q. Wait a minute. I missed one. I thought I had [3271] missed one in the series. I believe in that set, also, Mr. Wright, there is Exhibit EF that I have marked for identification. Does that conclude this set?

A. That does, Mr. Lyon. There is one part missing, Mr. Lyon.

Q. Which part?

A. There is a wire removed from Exhibit CV-1. It would not be in the group you are looking at. It would be in the group offered earlier, in this group in front of the clerk.

* * *

A. I think your question is addressed [3272] to Exhibits EI—starting with EG, -I, -H, and -K, is that correct? A. Yes, that is correct.

Q. Exhibit EI—correction. I will start with Exhibit EG. Exhibit EG is a five and one-half inch Weatherford Oil Tool Company scratcher which was purchased from Howard Supply Company recently, and I mean within the last four or five months, according to my present recollection, and

(Testimony of Kenneth A. Wright.)

at that time I think either three or four, and it could have been five, were purchased from Howard Supply Company. And this is a device which was sold to us as a five and one-half inch Weatherford scratcher with five-inch bristles.

Mr. L. E. Lyon: Mr. Wright, let me get this record correct, because what we are talking about, this device marked EH, "EH" has been scratched out and that is EF for identification, not EH. There is no EH here in this set of models. [3273]

* * *

The Witness: Exhibit EI is one of those same group of scratchers purchased at the same time as Exhibit EG, and after purchasing it, I instructed a machinist to place a small rod in through the coils of the scratcher fingers and orient them so that the axis of these coils is on line with the radius of the device itself, and to leave in its original condition the angular relationship of the wire as related to the axis of the coil.

So it is a case of bending over, or it might be called that, and moving into alignment the axis of the coil with the radius, the different radii of this particular sleeve.

So that, as a result of that, these wires then have a tangential relationship, and that is a very vague term at this moment, because none of the wires, none of the fingers actually extend from the periphery, so I am at a loss to define that thickness inasmuch as they do not touch a circle, and the tangent

(Testimony of Kenneth A. Wright.)

must touch the circle, be in contact with the circle.

Q. (By Mr. L. E. Lyon): Well, isn't it correct, Mr. Wright, to say that the wires extend in a direction parallel to a tangent?

A. That is good terminology. They are at right angles [3275] to a radius extended, would be another way——

Q. Yes.

A. The radius being extended beyond the periphery of the circle.

Exhibit EF is one of the three or more close-tolerance scratchers which were purchased at the time Exhibit CV-1 was purchased, and all of the wires were removed by removing first the rivets and taking the wires out, and when you remove the rivets you have the wires retained in there complete, entirely complete in every respect, without deformation of any nature, such as were used when they assembled the device originally. All they did was to take out the rivets, your Honor, that held them in place.

So this Exhibit CV-2, for example, can be placed back in this Exhibit CV-1 and held in place by fingers or a small bolt, or in conformation to what I have said is actually the casing.

The Court: The wire which you have removed is Exhibit——

The Witness: CV-2, your Honor, having come from Exhibit CV-1. And I will call your attention

(Testimony of Kenneth A. Wright.)

to this point on Exhibit CV-1 where this wire CV-2 was removed.

Exhibit EF, as I have just stated, is a part of the group of close-tolerance scratchers purchased at the time this CV-2 was purchased, and all the wire fingers were removed, as I have just stated, by removal of the rivets [3276] themselves, and then the wires placed to one side.

Following that, it was my instructions to a machinist to make a conical coil and place it having the first coil or base coil on one diameter, and each succeeding coil——

Q. (By Mr. L. E. Lyon): Or turn, isn't that the proper term?

A. Correction. That would be a better word, yes—for each succeeding turn being smaller in diameter than the preceding one, so as you view it in a side direction it simulates a pyramid or cone, which is the word I would like to use here.

So the instructions were to make four turns, and, after completion of that, to extend the finger itself from the axis of that conical coil at right angles to the axis of the coil, and to complete the assemblage of coils in as vertical section as possible, although not to go to extremes on that because that would go into precision which would be, you might say, not necessary in a device of this nature and for the work that it is required to do.

So this product here, this Exhibit EF, is the product of those instructions. The shell of this device, or the sleeve, the collar, is one of the original.

(Testimony of Kenneth A. Wright.)

The rivets are not of the original, nor neither are the two small bolts here with wing nuts affixed to the outside, screwed onto them, rather, so that they can be removed for inspection, [3277] for any examination that might be desirable or required.

So this is then, at this time, a conical-coil device with four coils. It is a close-tolerance scratcher and it has wires projecting from the axis of the coil at right angles, and the axis of the coil is radial with the sleeve itself.

Mr. Scofield: Did you mean in that previous answer four coils or four turns?

The Witness: Correction. Four turns. And if I have made that error at any other time, I wish that correction made. I do not mean four "coils," but four turns in the coil.

The device EK was purchased with a shell or collar, so it was purchased at the same time as Exhibit CV-2. The rivets were removed, the wire fingers were removed, and thereafter my instruction to the mechanic was to make a conical coil having four turns, and to have the axis of the conical coil in alignment with the radius of the sleeve or collar and to have the wire project from the uppermost turn of this coil at an angle identical to that extending from the device of the Exhibit CV-2.

So that, for comparison, this set of fingers, CV-2, can be placed in this Exhibit EK, by removing either one of these two fingers here which have this demountable accommodation provided, and confirm

(Testimony of Kenneth A. Wright.)
any part of it which might be required or [3278]
desired.

I believe that covers the list, Mr. Lyon.

Q. (By Mr. L. E. Lyon): You have covered all four models?

A. And I neglected to say, then we have this end product, a close-tolerance scratcher (indicating device).

The Court: The close-tolerance characteristics depend upon the machining or manner of the fabrication of the collar, is that correct?

Q. (By Mr. L. E. Lyon): Just state what your understanding of "close tolerance" means, Mr. Wright.

A. "Close tolerance" probably refers to the problem at the well rather than in the machine shop. It originates at the well rather than in the machine shop or in the fabricating shop.

We, in the drilling of these wells—many men have different ideas on what the proper size relationship of casing is that they have placed in the well, as to the hole they drill, that is what the bits are.

Some operators, for instance, want to put 5½-inch outside-diameter casing in a 9⅞-inch drilled hole, and in some fields they find that it is to their idea of what is the best. And some other operator will say, "Well, I will put 7-inch casing in that same diameter drilled hole." And somebody else says, "Well, I will put 7⅜ in that same size drilled hole." And someone else says, "I will put [3279] 8⅝-inch casing in that same hole." And they will

(Testimony of Kenneth A. Wright.)

perhaps do that in the same field if enough property owners are there, so that it would permit that many different kinds of operation.

The Court: And if he gets a good well, it proves he is right?

The Witness: Well, it proves to him that he is right.

The Court: A pragmatic test?

The Witness: There are many conditions arising out of those.

The Court: Does the "close tolerance" refer to the fitting of the bristles into the scratchers or the collars?

The Witness: It is intended to refer to the distance remaining between the outside diameter of the casing and the diameter of the drilled hole.

The Court: But it refers to the tolerance of the bristle?

The Witness: It refers to that and it can actually refer to the actual net wall thickness of the device itself.

The Court: That is the collar of the scratcher?

The Witness: This sleeve, the collar, that is right. As for illustration, if there is an $8\frac{5}{8}$ outside-diameter casing and a $9\frac{7}{8}$ drilled hole, a device which would have an inch in thickness here (indicating) would certainly be inoperable because the outside diameter then, including the [3280] tolerances which are required here to make it freely movable upon the casing—you would end up with a device bigger than the bit itself, and it wouldn't go in the hole.

(Testimony of Kenneth A. Wright.)

The Court: Is the close-tolerance scratcher different from the ordinary scratcher?

The Witness: None whatsoever, your Honor.

The Court: It is just the size, is that it?

The Witness: Well, it is, you might say, a very, very small diminution of this net thickness here, but if you add them all up from the top of the rivet to the top of the coil on the inside, then, if you were going to make a meticulous examination, you would go that far. Otherwise, well, I don't know, it doesn't seem to do very much in my book of drilling oil wells.

The Court: Is the virtue of it involved more for length of the bristles?

The Witness: No, no. You can always add more bristle on these. As you note here on one of the devices, you just cut the wire off at any length you want. No, I don't think there is any controversy of the parties on whether one, two, three, or four inches will do the effective abrading.

The point is that a dimension of the collar itself, which will permit of the sleeve in relation to this annular space between the outside diameter of the casing and the inside diameter of the hole, using the bit as the point of [3281] reference.

Q. (By Mr. L. E. Lyon): You spoke, Mr. Wright, of the tolerance, the size tolerance in the casing, and I believe you have presented a model, Exhibit EN for identification, for the purpose of illustrating what you were talking about regarding

(Testimony of Kenneth A. Wright.)

the casing tolerance. Will you just explain what Exhibit EN is?

A. Exhibit EN, this exhibit is made of aluminum to facilitate the making of this particular model, but it demonstrates what the condition is existent in this industry of the tolerance in diameter permitted by the American Petroleum Institute Code and the manufacturers of the tube itself, the casing, and in that sense they are all tubes.

Now, it is possible to turn a shaft for precision diameter. That is without question.

But the making of the tubes does not warrant going back and turning to precision diameters for their lengths, so we have a tolerance permitted in any A.P.I. codes, and there is present here an A.P.I. code.

Now, the tolerances in diameter are related to the diameters as a percentage. For instance, the A.P.I. code says that you may vary the diameter plus or minus and it is still in the length of the joint of casing that you purchase, three-fourths of one per cent of the diameter. You do not relate it to a set dimension. You relate it to a percentage [3282] of the diameter.

The Court: If it is a 7-inch casing, then they vary?

The Witness: Three-fourths to seven-tenths, seventy thousandths, plus or minus.

So, if you view a joint of casing, let us say, 40 feet in length, you would then be buying, if you were the purchaser, a joint of casing in which any

(Testimony of Kenneth A. Wright.)

one of these three diameters, over or under, would be existent at any place throughout the whole length, or any combination which the rolls might have produced at the time the joint of casing was manufactured.

Mr. Scofield: What do you mean, Mr. Wright, by "a joint of casing"? Do you mean a section?

The Witness: We call a joint of casing the single length you buy. Now, for instance, that piece of aluminum lying there is a joint of casing $3\frac{1}{2}$ inches in diameter.

The Court: That is, there are ranges?

The Witness: Your Honor, we divide it into range one, range two, range three, those being 20-foot plus or minus 2 feet, 30 feet plus or minus, and 40 feet is range three. You could purchase a 40-foot casing and you might have a joint of as much as 44 feet there, and you might get one as low as 36 feet in length, and again the code is met, when you do not get more than 20 per cent less, less than some set dimension, or they will average 40 feet, without any of [3283] them being less than 36 or none of them over 44 feet, something of that nature.

So you buy a range one, range two, or range three casing.

The Court: These are not machinist's measurements?

The Witness: That is right.

Q. (By Mr. L. E. Lyon): Now, in this casing size there are rather acute measurements, Mr. Wright. Just how much is a 7-inch casing permitted

(Testimony of Kenneth A. Wright.)

to vary, as shown by this model you have, Exhibit EN? You have the actual variable, permissible dimensions right on the face. Will you put them right into the record?

A. Just a minute. When you purchase, as, for example, one joint, let us say a 7-inch casing, range three, and assuming you get a 41-foot joint because of that purchase, the so-called nominal diameter is 7.00 inches. You bought a 7-inch casing, and I would call that the nominal size. But within the tolerance of that 41 feet I have just explained there, part of it could have a diameter of 6.948 inches, as an illustration, which would be the maximum undersized diameter, and any part of it could be 7.053 inches, being the maximum. Now, as a result, you have met those specifications, and if you ordered that, you bought the joint of casing because it met specifications according to the standard of the A.P.I. in the trade.

Now, let me give this added illustration: If this were [3284] 20-inch casing, your Honor, and we do have casing up to 20 inches in diameter—outside in all cases—then one per cent of that would be 200 thousandths, and three-quarters of that would be 150 thousandths. Now, an eighth of an inch is 125 thousandths, so we have added 25 thousandths more than I stated as an eighth, to visualize the thing.

So this step here, from minimum to maximum, could be over a quarter of an inch and then it is quite observable, but you won't see it with the eye in looking at it, but if you test it with calipers and

(Testimony of Kenneth A. Wright.)

accurately determine it, those variations will be of that magnitude.

Q. Now, the significance of that, Mr. Wright, in those allowable variations, is it not, is the fact that the collar of the device which fits on the casing must have a maximum diameter to go over the largest allowed tolerance and so that it will move freely, isn't that correct?

A. Well, I don't like the word "fit." If you say "slide"——

Q. All right, slide.

A. That is true. So, as illustrated, between these two stops on Exhibit IIII there is a varying diameter between those. You must go over the highest, greatest diameter and disregard the fact that on the other side it may go back to the minimum tolerance.

So that illustrates, when you point out to anyone in the [3285] trade a device mounted with stops, such as this is, he visualizes and knows that this condition is existent because it has been that way, I know, since before the A.P.I. code in 1923, and I know it was in existence before that because you can't manufacture these tubes——

The Court: If you had a scratcher for a 20-inch casing, then you would have to have the diameter of the collar of the scratcher over $20\frac{1}{4}$ inches?

The Witness: That is correct, and it would be a sloppy fit at places, too, and to compensate for that it requires more lugs on the casing and bending the lugs, or else the thing will——

(Testimony of Kenneth A. Wright.)

Q. (By Mr. L. E. Lyon): Cant?

A. ——cant, or possibly drive up on them, because you might put the lugs in inadvertently on the lowest diameter.

And then your scratcher here would be manufactured to provide for the maximum diameter, because we place the stopping points on a joint of casing on straight lineal measurement, say 10 feet apart. We do not take calipers and see what the 10 feet is they put on the joint. We just say, "Put them on 10 feet apart, on all the joints of the casing."

The Court: All those scratchers are, I suppose, the same size?

The Witness: That is right.

The Court: Within a size range, they all measure the [3286] same?

The Witness: That is right. A 57/8-inch casing size scratcher is made with the objective that it will slide freely over a maximum diameter found on the 51/2-inch casing which will be found in the [3287] field.

* * *

Mr. L. E. Lyon: No, it is not. I am offering it now.

The Court: Exhibits EN, EI, EG and EF?

Mr. L. E. Lyon: And EK.

The Court: And EK are now received in evidence. [3288]

* * *

Q. (By Mr. L. E. Lyon): I will place before

(Testimony of Kenneth A. Wright.)

you, Mr. Wright, photostat heretofore marked by me FK for identification, together with the original A.P.I. specifications from which it is taken, and ask you to state what the document FK for identification is?

Mr. Scofield: That won't be necessary. I will stipulate that it is the A.P.I. casing size. What is the title of it, Mr. Wright?

The Court: Stipulate the exhibit is genuine and in all respects what it purports to be?

Mr. Scofield: Yes, sir; I will stipulate that.

The Court: Received in evidence. [3291]

* * *

Q. Mr. Wright, you have prepared a model of the casing of a certain size, together with its appendant parts, and have also prepared an aluminum model of certain shoes which ordinarily are affixed to such a casing, these devices having been heretofore marked Exhibits EM-1, EM-2, EM-3, and EM-4. [3292]

I wish you would explain these devices.

You have also here present at this same time a model heretofore marked Exhibit EM-1, which is not a model but an actual device of a float shoe, Baker Cement float shoe. Will you explain these devices?

And I believe, also, you should explain with reference to the model of the casing the manner and demonstrate how the scratchers like Exhibit

(Testimony of Kenneth A. Wright.)

IIII or similar exhibits are actually mounted on such a casing in the field.

The Witness: Will it be all right to place those back in the box?

Mr. L. E. Lyon: Yes. I will take all of those out of your way that you are not going to use. In fact, I will give these to the clerk so he can mark them.

The Clerk: If you will let me have those to mark.

A. This Exhibit EM-1 together with Exhibit EM-2 is meant to represent, first of all, a joint of casing. In this particular instance it is $3\frac{1}{2}$ inches outside diameter, a size which is available in the trade.

The part, Exhibit EM-2, is what we call as a protector, which, if fully stated, would be a thread protector. So when we purchase a joint of casing we expect to have a thread protector on it, otherwise the thread would be damaged and it would not be usable at the well. So it is removable easily by hand, but occasionally they have to use a [3293] wrench; and in this instance I have taken the precaution it was not screwed up so tight but what I could remove it by hand.

So there is an exhibit here and instructions for how to mount scratchers, and I believe it is called Exhibit HH; and there is a bulletin 101 which also has instructions for how to mount scratchers on the casing. And it states that you decide, first of all, how far apart you want your scratchers, and you measure off those dimensions in straight linear

(Testimony of Kenneth A. Wright.)

amount. And I am going to disassemble this device, Exhibit IIII, for the purpose of taking this scratcher from here to make it usable in this demonstration.

The Court: The scratcher, Exhibit IIII, is the exhibit?

Mr. L. E. Lyon: The scratcher is IIII, your Honor.

The Witness: IIII is the scratcher itself, your Honor.

The Court: Very well.

A. And so, in order to make it complete, there is another one around here somewhere.

Mr. L. E. Lyon: What do you want?

The Witness: A 3½-inch scratcher.

Mr. L. E. Lyon: Do you want another 3½-inch scratcher?

A. Well, having marked off with a piece of chalk where the scratcher itself—and I have a piece of chalk in my hand—where each one of them might be positioned on this linear dimension we have previously mentioned, and I will make two chalk marks on this Exhibit EF-1, and then I [3294] will slide the scratcher on the joint of casing up to that mark and slide this second 3½-inch scratcher—

Q. Just wait a minute. This scratcher that you just slid on there is Exhibit EC. Now, you are going to slide a second scratcher on there, which is Exhibit IIII, is that correct?

A. That is correct. And I will slide that onto the other point which I indicate. And then, according

(Testimony of Kenneth A. Wright.)

to instructions and the practice in the field, would be to mark off six inches either above and below the scratcher and place a chalk mark. And I am estimating these distances and making the mark. And then in the field, as we did in the Kelly well and all the wells thereafter, use a piece of chalk and make a ring around the casing in that manner there, mark out those two chalk marks approximately one foot apart and then tell the welder to place his four beads evenly spaced at that [3295] mark.

* * *

A. * * * But the two documents I refer to which are in evidence are the two, and they say six inches above, roughly. So, in that instance, the second scratcher, you would make the mark around, using the scratcher collar as more or less the guide, so that the welder does not place the beads unevenly around the circumference or periphery of this piece of casing, and so they are evenly spaced around and have, at least as far as his eye can determine it, are evenly all presenting a square shoulder for uniform stopping.

So we don't go quite to this far extreme. We found that was, you might say, too time-consuming; and if it is too time-consuming, it is costly.

The Court: You are referring now to the welding rod that is welded on Exhibit?

The Witness: CF.

So, as a result of that, the device is free to slide

(Testimony of Kenneth A. Wright.)

and free to turn between those, with those limitations, on the casing.

The Court: Is it of any importance that the lugs themselves be lined up up and down the length of the casing?

The Witness: No, your Honor. You mean in the vertical [3296] alignment?

The Court: Yes. The only important matter there, I take it, is that they be evenly spaced around the casing?

The Witness: Evenly spaced and, as near as possible, not in an uneven profile around the casing so that they bump one and not the other, but they are a stop only effective on one lug. They should be, as best as possible, uniformly distant apart. So I say the ideal objective, if it were regulatory, would be to have such as I have here illustrated in CF, such as illustrated in the Exhibit X, the Jones report.

The Court: That would be welding rod entirely going all the way around the casing?

The Witness: That is correct, your Honor. As soon as we point out to a shop man or welder an individual joint and say: "Put the shoe on that joint" it takes, what you might say, new identity because it becomes the shoe joint, and thereafter is the shoe joint rather than one of the other joints in the string, and I mean a string of casing.

In the period up to about before 1925, or approximately those dates, perhaps six months or a year on

(Testimony of Kenneth A. Wright.)

either side, but very close on either side, we used on the casing a shoe similar to Exhibit EM-3.

This is meant to be a 3½-inch casing shoe, which it represents, and you can find cable tool industry still uses [3297] shoes of this nature, identical to this. And so when this casing shoe is screwed onto the joint and then becomes the shoe joint, and that is the first joint which is lowered into the well; and from thereafter you have the shoe joint and you have the shoe on the joint, and those are reference points that oil men talk about continuously in talking about an oil well. "Where is the shoe? What is the depth of the shoe, your lower extremity of that particular casing?"

So this "shoe" nomenclature comes in very frequently in lowering into the well a string of casing having a shoe like this Exhibit EM—and that was the standard practice for many years. As we lowered the casing in, and you assume that the rotary drill hole is full of fluid at the time you start into the well, and for good safety precautions tell you to keep the hole full at all times, because if the fluid level should drop to some depth of which you don't know the top, blowouts can occur. And those are part of the safety regulations: Keep the hole full. That is the way it is said. And if you keep it full of mud, you can see the fluid rise in the annulus space there outside of the casing and would also enter the casing through the shoe because there is no restriction whatsoever. The casing is open.

This shoe has this beveled edge for two reasons:

(Testimony of Kenneth A. Wright.)

One is that it will shear to some extent going in if it is required, but the bevel on the inside is also required [3298] because tools which are run and use this after the casing is set in the well have to be withdrawn, and if you had a reverse angle there, they might become engaged and you could not draw them through it upwardly. So this bevel is equipped to be sufficient to not cause the tools to hang up, as we call it; in other words, be the first start of a fishing job.

During that period when casing was run in the wells, equipped in the manner I have described, it was common practice to, as I described it, break circulation while running in, because you are shearing off some filter cake on the outside, and some of that heavier or more viscous mud would rise on the inside. And you could not prevent it. You made no effort to prevent it. So the casing would become logy, as we call it. So it was the standard practice to put on the circulating head, reciprocate and circulate for a while until you get everything again in equilibrium.

And what I mean by that is, you can actually have a mud system where the specific gravity or weight would actually be variable in the stream itself. You have a heavy mud spot and a light mud spot; so you bring the thing into equilibrium, circulate long enough to gain that specific gravity uniform throughout the circulatory system, and then you progress again. A particular point might be observed, with the driller himself being very ex-

(Testimony of Kenneth A. Wright.)

perienced, [3299] when the casing was getting logy; he had the particular sense of touch that said, "Now is the time." And so many operators, for instance, the bigger oil companies, say: "Well, let us take it out of his hands. You circulate every 20 joints whether it gets logy or not."

Maybe you could run 30 joints without doing it, but find it better practice every 15 or 20 joints, whatever they would say. Then it is a straight requirement.

After a while along came a manufacturer—and I don't remember who it was, but several of them—made little guides such as I have in my hand here, Exhibit EM-4. And the purpose of this particular thing called a guide—in this case it is a shoe guide. We use the guides to apply to lots of devices in this industry, apparently. Well, this would be made out of cast iron and just as light as they could make it and hope to do good work in helping getting the casing in the well, yet not be so heavy that you could not drill it after, because you are going to make holes in lots of instances below.

So this device, EM-4, slides into the shoe, EM-3, and then, as is indicated here on the side of EM-4, little cutout sections internally—they would either braze or weld very lightly, just enough to make the particular guide secure in there for the particular job, because it is only a one-trip job in the hole and remains there for the life of the [3300] well or forever.

After these devices came out and began to be

(Testimony of Kenneth A. Wright.)

used, operators observed that they could run more casing without resorting to breaking circulation. They were actually getting benefit of this hole in the bottom by restricting the amount of fluid which would come in every time they lowered a joint. So they were in effect displacing the fluid in the annular space above to a certain amount every time they lowered each succeeding joint into the well. They were in effect doing a little breaking circulation themselves with the joint of casing, if you see what I mean.

So it did not take more than, you might say, a year or so of that in experimenting with the size of these holes with the bottom of this Exhibit EM-4 until the next development was the introduction to the industry of the so-called float shoe.

And this is a shoe which I purchased from Baker Oil Tools here within the last four or five months—I don't recall—Exhibit EM-5. This happens to be steel, your Honor, and it is heavy, so if I don't hold it. But it is identical in the outside shell form as this device, EM-3, but all of the internal sections which you see here are made of cement. There is a ball in there that is made of plastic which has a specific gravity that causes it to always float in mud. So as soon as you immerse this in fluid, in mud in [3301] the well, the ball rises and closes the valve. So it eliminates relying upon a spring to close the valve and provides a condition where no metal of any nature is in the device, because you don't like

(Testimony of Kenneth A. Wright.)

to strain metal in the well, your Honor; it is bad practice.

So we go from the plain shoe to the shoe with the guide to the float shoe, and that is the progress that took place in the early 20's.

Now, as I said, this cement is drillable here, which is far more preferable than drilling up this piece of cast iron, the guide.

The Court: Then that ball closing the valve prevents the mud from rising in the casing at all?

The Witness: That is correct. So instead of filling the casing from the shoe upward, we go to filling the casing from the top end at the floor of the derrick, and then we set up regulations. Well, then there, again, it depends upon what the man's personal opinion is, how often to fill up the casing. But the point is that every time you lower a joint of casing into the well and it has a float shoe on the bottom, you displace upward in the annulus a volume equal to the net volume of that joint of casing the same as if it were solid, and that is actually breaking circulation while running in, if you see what I mean. You cause an upward displacement. So as you run casing into the well with [3302] equipment such as I have described, with this float shoe on, you get returns to the surface which you observe. In other words, it overflows just the same as if you would stick a large bolt into a glass of water; you would have an overflow. That is as simple an illustration as you can make.

If you do not have overflow, then you know that

(Testimony of Kenneth A. Wright.)

something is not desirable that is going on. So the driller observes, as he states: "Am I getting returns?" And he will ask the derrick man to go and look at the ditch, "Am I getting returns," every time he drops a joint in. That is the language he uses.

So after the use of these devices, this shoe device for a short time, the operators found they could run more and more casing without resorting to breaking circulation.

Then they realized more accurately, let us say. Many strings of casing run clear to the bottom. It was not required as long as they were sure they were getting returns each time they lowered in a joint, so that was a good indication and a confirmation enough that everything was going all right, the hole conditions were all right; you were not going to get into trouble.

So we progressed, as I just outlined here, from each one of these steps so it finally gets to the place where often wells of extreme depth, you can many, many times run right to the bottom without having to resort to breaking circulation, and going in. But it should be realized that [3303] the casing under that condition removes practically no filter cake from the wall of the well while doing so, but only causes an upsurge and displacement of the fluid mud, not the drilling mud, but filter cake on the permeable strata.

Maybe I had better disassemble this.

Mr. L. E. Lyon: No; just leave it that way.

(Testimony of Kenneth A. Wright.)

I will offer in evidence at this time for the purpose of illustration of the witness' testimony the devices heretofore marked EM-1, EM-2, EM-3, EM-4, and EM-5. [3304]

* * *

OSCAR GAY

called as a witness by the defendants, being first duly sworn, was examined and testified as follows:

Direct Examination

By Mr. L. E. Lyon:

Q. Will you state your name, please?

A. Oscar Gay.

Q. What is your residence, Mr. Gay?

A. 114 Pomona Avenue.

Q. What is your age? A. 61.

Q. How long have you been around the oil fields in [3305] and about California?

A. About 34 years.

Q. What was your occupation in February or March of 1952?

A. I was with the Weatherford Oil Tool.

Q. In what capacity? A. A salesman.

Q. Located where? A. At Long Beach.

Q. Did you have any conversation in February or March of 1952 with anyone connected with Jesse E. Hall, Sr., or connected with the Weatherford Oil Tool Company, with respect to the Kelly well operation?

(Testimony of Oscar Gay.)

A. Well, I did. I wouldn't state any specific date.

Q. Who was it? A. Mr. Hall.

Q. Which Mr. Hall? A. J. E., Sr

Q. Where?

A. I think that was in Los Angeles, in Mr. Subkow's office.

Q. And as a result of that conversation you were instructed to go out and see certain witnesses, were you not?

A. I don't believe I—I don't recall any witnesses. There might have been witnesses [3306] later on.

Q. Certain parties who were subsequently, and were named and were going to be subsequently witnesses, including Mr. Edmonds?

A. I talked to him.

Q. And who else at that time?

A. I talked to Mr. Rutherford.

Q. And who else?

A. Mr. Sweetser was the first one.

Q. Who? A. Earl Sweetser.

Q. Who else? A. I think that was all.

Q. And as a result of your conversations with these men, you got them to sign certain affidavits, did you not? A. I did.

Q. Now, you paid them certain monies for those affidavits, did you? A. I did not.

Q. You paid them a check for \$10.00 for their so-called expenses, which was mailed to them, that is correct, isn't it? A. It is.

(Testimony of Oscar Gay.)

Q. And you paid them a hundred dollars, and a hundred dollar bill in cash, did you not?

A. I did. [3307]

Q. Did you ever meet any of these individuals before? A. No, sir.

Q. Now, it totaled—who told you to pay them the \$100 cash? A. Nobody.

Q. From what monies did you pay them the \$100 in cash?

A. Out of money that I used as I saw fit for the company.

Q. That is, it was company money that you paid them? A. It was.

Q. Did you tell the company that you had paid these witnesses a hundred dollars in cash over and above their expenses?

A. That was paid above——

Q. Just answer the question, please.

A. I did not pay the expense money.

Q. Who did you tell that you paid the money, a hundred dollars in cash, a hundred dollar bill, to the two witnesses?

A. I think I told Mr. Hall.

Q. When?

A. After he mailed me a ten-dollar check for each one of them.

Q. I see. You told him that you had already paid them a hundred dollars in cash? [3308]

A. I did.

Q. And still you gave them a \$10 check, in addition?

(Testimony of Oscar Gay.)

A. He had mailed it to me, and I in turn mailed it to them.

Q. Whom did you give the \$100 to?

A. Well, I paid Rutherford a hundred dollars.

Q. Who else?

A. The other fellow, I think, Edmonds.

Q. Who else? A. That is all.

Q. And you negotiated with them for their giving certain affidavits which were subsequently filed in a public-use proceedings in the Patent Office at that time, did you not?

* * *

A. I did.

Q. (By Mr. L. E. Lyon): Now you can make any explanation you want.

A. I brought Mr. Rutherford to the Weatherford Oil Tool Company in Long Beach, and Mr. Philip Subkow, associate [3309] attorney, took the affidavit.

Q. Now, was Mr. Subkow present when you gave the witness a hundred dollars in cash, a hundred-dollar bill?

A. No, sir. He was not. It was several days later.

Q. Was Mr. Subkow present with you—and that was Edmonds, was it not?

A. No, sir. That was Mr. Rutherford.

The Court: When you say “several days later,” do you mean after he made the affidavit, when you paid him?

The Witness: Yes, sir.

(Testimony of Oscar Gay.)

Q. (By Mr. L. E. Lyon): And you knew, did you not, that these parties having given these affidavits would be called in the public-use proceedings matter? A. I did not.

Q. You were informed that the Kelly well had been specified on behalf of B & W as an incident of prior use? A. I did.

Q. And you knew that these parties, Edmonds and—who was the other one, Rutherford?

A. Rutherford.

Q. —were parties who were present on the tower on December 31st when the B & W scratchers were run in the hole?

A. I did not know it. I was told by Mr. Sweetser, the superintendent, who were the men that worked on the well, [3310] and I went to see them.

Q. You were told, and they told you that they were on the tower when the B & W scratchers were run, didn't they? A. That is right.

Q. And it was after that that you presented to each of them a hundred-dollar bill, is that correct?

A. After they had made the affidavits, I did, and ran several days back and forth to my office.

Q. Were either Mr. Scofield, Mr. Hall, or Mr. Subkow present when you presented a hundred-dollar bill to either of those witnesses?

A. No, sir. They were not. I don't think they were in the State.

Q. But the money that you paid to them was Weatherford Oil Tool Company money and was subsequently reimbursed to you by the company and

(Testimony of Oscar Gay.)

A. He had mailed it to me, and I in turn mailed it to them.

Q. Whom did you give the \$100 to?

A. Well, I paid Rutherford a hundred dollars.

Q. Who else?

A. The other fellow, I think, Edmonds.

Q. Who else? A. That is all.

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A. I did.

Q. (By Mr. L. E. Lyon): Now you can make any explanation you want.

A. I brought Mr. Rutherford to the Weatherford Oil Tool Company in Long Beach, and Mr. Philip Subkow, associate [3309] attorney, took the affidavit.

Q. Now, was Mr. Subkow present when you gave the witness a hundred dollars in cash, a hundred-dollar bill?

A. No, sir. He was not. It was several days later.

Q. Was Mr. Subkow present with you—and that was Edmonds, was it not?

A. No, sir. That was Mr. Rutherford.

The Court: When you say “several days later,” do you mean after he made the affidavit, when you paid him?

The Witness: Yes, sir.

(Testimony of Oscar Gay.)

Q. (By Mr. L. E. Lyon): And you knew, did you not, that these parties having given these affidavits would be called in the public-use proceedings matter? A. I did not.

Q. You were informed that the Kelly well had been specified on behalf of B & W as an incident of prior use? A. I did.

Q. And you knew that these parties, Edmonds and—who was the other one, Rutherford?

A. Rutherford.

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Q. You were told, and they told you that they were on the tower when the B & W scratchers were run, didn't they? A. That is right.

Q. And it was after that that you presented to each of them a hundred-dollar bill, is that correct?

A. After they had made the affidavits, I did, and ran several days back and forth to my office.

Q. Were either Mr. Scofield, Mr. Hall, or Mr. Subkow present when you presented a hundred-dollar bill to either of those witnesses?

A. No, sir. They were not. I don't think they were in the State.

Q. But the money that you paid to them was Weatherford Oil Tool Company money and was subsequently reimbursed to you by the company and

(Testimony of Oscar Gay.)

after you had told them that you had spent the money for that purpose?

A. The money was in my trust.

Q. Just answer.

A. For purposes that I saw fit, for I was purchasing other material being used by the company and at my discretion, I was told that I might pay them what I thought it was worth, and after several days back and forth to my office and writing the affidavit—the man was a welder, and I kept him and his truck and the machine standing in front [3311] of my office several times, and I had to even go and square him with his boss for keeping him away from the job. I gave him a hundred-dollar bill.

Q. You were present when Mr. Edmonds and also Mr. Rutherford testified that the amount of \$10.00 that they received was the total compensation for their expenses, weren't you, in the Patent Office proceedings?

A. The record will have to stand on that. I wouldn't state they did or not.

Q. Now, Mr. Gay, you have been acquainted with Mr. Jesse E. Hall, Sr., for many years, have you not? A. I have.

Q. And I place before you a document which has heretofore been marked as "Gay deposition Exhibit D." I will ask you if you are not familiar with that document? A. Yes.

Q. You were present and saw Mr. Jesse E. Hall, Sr., sign that document with his son's name and

(Testimony of Oscar Gay.)

swear that he was Elmer D. Hall, to the County Clerk, were you not?

A. Well, Hall signed this paper on permission of Mr. Elmer Hall.

Q. Just answer the question.

A. I was there.

Q. And you saw him swear that he was Elmer D. Hall?

A. To my knowledge he did not swear to it. That might [3312] have been something else added to it later on, but at the desk it was not witnessed by any notary.

Q. When he signed that, he did not tell the party to whom he presented this document that he was Jesse E. Hall, did he?

A. No; I wouldn't say he did or didn't.

Mr. L. E. Lyon: I believe this document, your Honor, Exhibit D to Mr. Gay's deposition, is already in evidence as Exhibit BN.

I believe that is the same certificate, Mr. Scofield.

Mr. Scofield: No objection.

Mr. L. E. Lyon: That is all. [3313]

* * *

KENNETH A. WRIGHT

(Recalled)

Direct Examination

(Resumed)

By Mr. L. E. Lyon:

Q. Before the recess you were asked to complete your explanation of Exhibit FT with relation to the Kelly well. Will you complete that answer now, Mr. Wright?

A. Yes, Mr. Lyon, if you will provide me with that drawing which I left in the——

Q. Exhibit FT.

A. It is in one of the copies of the transcript, and I believe it is the one on the top of that table. The drawing is what I want. The illustration B on the right-hand side of the Exhibit FT illustrates the type of condition which was present in the Kelly well there in the Rosecrans field area; that is, there was a productive sand and water to be placed as behind the shoe, or above the shoe, as we call it, and that the production section that they had as their objective was below the point where they made the cementation.

So in that condition we placed the scratchers on the casing opposite the permeable strata so that when, as and if perforated opposite one of those sands, then the production [3324] would be what we call clean, that is, free from water, also called "pipeline oil." Those are oil men's expressions for showing that he got oil free from water. Or if he says: "I have an oil or gas-oil ratio," he means that there

(Testimony of Kenneth A. Wright.)

is no contamination or association, which is a better word, of an excess of gas with his oil production.

And in the Kelly well they drilled out the shoe and made a demonstration for the effectiveness of the cementation with a portion of the hole which is identical to that found in A-2, but that section of the hole below the shoe, it actually was not oil sand, because they had located the top of the sand prior to setting the casing in the well.

The Court: Then chart B on Exhibit FT, to be accurate, would show the shoe almost down to the oil sand?

The Witness: Right almost to the very top of it; that is correct, your Honor. But I was associating this type of thing with the use of the scratchers opposite the permeable strata, and that was the main object, although, as I recall it, they did have water between the gas—oil sand in this case, and the position where the shoe is located.

And in those cases here in the State of California they usually require definite confirmation to use that particular casing program in the well, in that particular well in that field, because we have a general regulation that you should set casing over each productive sand after passing through a [3325] water, but when the thickness of the sand gets to the point where the total ultimate recovery from that sand would not be sufficient to justify the, what we say, “wasting a string of casing”—that is our expression—why, then they will permit a condition where you put two or three of these sands behind

(Testimony of Kenneth A. Wright.)

the casing that you set up at this particular depth.

And in contrast with that, the State of Texas permits you to set through any number of sands.

The Court: To choose your own sand, is that it?

The Witness: But they isolate you very, very—strike the word “isolate”—but they restrict you to production from one sand alone, that is, a zone, and when you deplete that or find it insufficient, you seal it off and go to another. But you do not commingle the sands by productive methods. Here in California they will let you produce numerous sands in the same perforated interval.

The Court: Is that contemporaneously?

The Witness: That is correct, your Honor. And that makes the distinction why they make the rules that I have just indicated.

The Court: In other words, you could have, say, three sands and the oil from those three sands would be entering the casing through perforations contemporaneously and all be commingled together at the surface?

The Witness: That is correct, your [3326] Honor.

The Court: Before they reach the surface?

The Witness: That is correct. The attitude of the engineers in that area is that each sand is a reservoir, an individual reservoir, and to be treated as such.

And that finishes—one further thing that demonstrates that effectiveness of cementation during the period prior to, say, approximately 1930 or '35—I

(Testimony of Kenneth A. Wright.)

don't know the exact year—were carried out as in a tube. And then devices were developed called drill stem testing tools wherein holes may be as casing is perforated and you run this drill stem tester in, which is a packer with instrumentation as valves, and you make a test in a short time just as effective and reproducing just exactly what we did as in A-2 where we actually took the fluid out of the well on a bailer, out of the casing, rather, and reduced the fluid to the point where you find fluid is entering or not entering after letting it remain quiescent for 12 hours, or whatever period they might set as the test period.

So we drove from—the test like in A-2 is still permitted; it is optional. If you do not have any productive sands of any nature above the shoe, why, then you may carry out as in a tube, but it would be cheaper and more rapid, quicker, to get the test done by renting the drill stem test tools.

Q. (By Mr. L. E. Lyon): Mr. Wright, you have testified [3327] that the scratchers were mounted on the casing at the Kelly well. Were you present when they were mounted on the casing?

A. I was.

Q. Did you instruct anybody with reference to the mounting?

A. I instructed the welder how to mount them and watched him while he mounted them so that no mistakes were committed, to be sure my instructions were carried out explicitly.

Q. How were they mounted?

(Testimony of Kenneth A. Wright.)

A. Between stops on the casing of approximately one foot apart and so that they were rotatable and slidable between the stops.

Q. How does that mounting correspond with the demonstration that you have given on Exhibit EM-1 this morning, Mr. Wright?

A. The demonstration I made on EM-1 is identical to how it was carried out in the Kelly well on the casing at the Kelly well. [3328]

Q. (By Mr. L. E. Lyon): Were you there personally throughout the time that the cementing operation was conducted in the Kelly well?

A. I was.

Q. And delivered the 23 scratchers to the Kelly well yourself?

A. That is correct.

Q. And all of those 23 scratchers were mounted on the casing?

A. That is correct.

Q. And all of them are now cemented in the well, then?

A. That is correct.

Q. Mr. Wright, you have at present heard the testimony of Mr. Barkis in respect to your early contacts with the Shell Company and the Standard Oil Company of California, is that correct?

A. I heard it, yes. I heard Mr. Barkis testify.

Q. And did you yourself, personally, contact either of these companies, with respect to any question concerning the patents which you held?

A. No, I did not. I wasn't with Mr. Barkis when we called on Mr. Bates and when we saw Mr. Toussaint.

Q. Now, except for this attempt to license these

(Testimony of Kenneth A. Wright.)

companies to use your methods, did you ever take up with any other company the question of patents, prior to a question of [3329] patents being raised by the individuals of the companies with whom you had contacted or were in contact with?

A. I have not, with one exception. I wrote a letter to Mr. Teplitz in June of 1946, is my recollection, and whatever is in that letter is in the record.

Q. And in that letter you advised Mr. Teplitz that you held patents, is that correct?

A. That is correct.

Q. Had any question been raised by Mr. Teplitz concerning the patents before you wrote that letter?

A. None that I recollect of.

Q. Now, it has been testified by Mr. Houghton in his deposition that you assured him at all times that no suit would ever be instituted against the Gulf Company. Did you personally give Mr. Houghton that assurance?

A. I made that statement to Mr. Houghton.

Q. On more than one occasion?

A. I believe perhaps on two. One was in September of 1947 and one was, I believe, in January of 1950.

Q. Mr. Wright, at the time of a hearing in a preliminary matter in this court in this particular case in July of 1951, I believe we learned at that time that suit had been instituted against your company or distributor or someone in Venezuela, is that correct?

A. I think that we had an indication that such

(Testimony of Kenneth A. Wright.)

things [3330] might be, might happen, a little before that.

Q. But no indication that any suit had been filed? A. I don't think so.

Q. Now, in open court here we endeavored to ascertain who the parties plaintiff and defendant were in that particular suit, did we not, at the time of the hearing in this court?

A. The court record is the best record, but I think Mr. Scofield said, "In case you want to know it, you are being sued," or "are going to be sued," some such words, anyway.

Q. And we endeavored to find out who the parties were to the suit, in the court room right here, did we not?

A. That is my recollection.

Q. And neither Mr. Hall nor Mr. Scofield would tell us who the parties plaintiff or defendant were, would they, or against whom suits were then filed?

A. That is my memory of the record and I think the transcript is the best evidence, but that is my recollection.

Q. And service was made in those suits by publication, was it not?

A. Against B & W, it was.

Q. And the publication date was nearing its end, was it not, at which a default judgment might be obtained, when [3331] we actually found out who was being sued?

A. That is my recollection.

Q. And after finding that matter out, you sent

(Testimony of Kenneth A. Wright.)

me to Venezuela? A. That is correct.

Q. Well, on going to Venezuela we went through Washington, D. C., did we not?

A. That is correct.

Q. And we called on Mr. Houghton of the Gulf Patent Department with respect to what?

A. For two things. We had just prior to that adopted this practice, in furtherance of your suggestions, of marking the invoices with the stamp of notification of a royalty being separated from the total price charged for the device.

And Mr. Houghton, according to my recollection, had taken exception to it and so we went there for two objectives.

One was to discuss that with him, because, as I recollect, he said he might stop the Gulf Oil Corporation from buying our devices, unless he had further explanation from you and the other objective was to obtain letters of introduction to Gulf's subsidiary in Venezuela, to their executives, so that you would be provided with everything you thought might be useful to you in making this trip to Venezuela on our behalf. [3332]

Q. I believe that we had that conference with Mr. Houghton in Washington, D. C., in his office on the 23rd of July, 1951, and I remember that date because it was July 24th, which was Bolivar Day in Venezuela, when I arrived there by plane, the next day, which was a holiday, so that nothing could be done then.

(Testimony of Kenneth A. Wright.)

Was there anyone other than you and I and Mr. Houghton present at the time we held that conference with him in his office?

A. No. We three were the only people present.

Q. And will you tell just exactly what was said at that time and place?

A. Well, my recollection of the conversations, they were to the effect that you satisfied Mr. Houghton that his purchase of the equipment and being subsequently invoiced in that manner would not constitute an acquiescence of the validity of the patent. At least that is my understanding of what was the controversial point. And upon the assurance from you that that would not, in your opinion, be what was actually the legal premise, he said that in that event he would let the thing stand as it was and not in any manner restrict the purchase of B & W equipment.

Then you asked him for letters of introduction to whoever were the officials in the Mene Grande Oil Company in Venezuela. And he said he did not know the names of them, [3333] even though it was a partially-owned subsidiary, but that he would find out who they were.

So he called Pittsburgh on the telephone and when he called this individual, and I think it was Mr. Vollmer, for the names of the Mene Grande officials to which he should give you the names and the letters of introduction, he said that Mr. Lyon and Mr. Wright were there in his office at the time and had satisfied him as to the matter of the

(Testimony of Kenneth A. Wright.)

stamped invoices, and then he said, "By the way, Mr. Vollmer"—and I think it was Mr. Vollmer, without question, that he thought that he would go ahead and finish that matter about the Canadian patent situation and which he and Mr. Vollmer had been either corresponding about or discussing, and pass out and issue instructions to use no scratchers other than those manufactured by B & W or their licensee thereafter.

That terminated the telephone conversation and Mr. Houghton then, as I recollect, asked you something about how you got certain claims in Canada which were not word for word the same as the U. S. patent and your response was that your firm or you had nothing to do with the processing of the U. S. patent of B & W.

Q. Now, was there any other conversation had at that time? A. Not that I recollect.

Q. Had we, either you or I, brought up with Mr. [3334] Houghton in any way the Canadian situation? A. None whatsoever.

Q. Have you given the entire conversation that was had with Mr. Houghton as to the Canadian situation?

A. According to my best recollection, I have stated it all.

Q. It was not either your or my suggestion that any such order or instruction should be given with respect to the Canadian situation, is that correct?

A. That is correct.

(Testimony of Kenneth A. Wright.)

Q. We had not made any assertion that we even held patents in Canada, at that meeting, had we?

A. There was no reference to Canadian patents whatsoever, by you or by myself.

The whole matter came out of the conversation between Mr. Vollmer and Mr. Houghton, while on the telephone, between the two parties.

Q. Now, with respect to these Venezuelan suits, there were two suits, I believe, that were filed in Venezuela almost simultaneously, in the summer or late spring of 1951, were there not?

A. That is correct. [3335]

* * *

Q. (By Mr. L. E. Lyon): Now, the two suits were filed in different districts or states of Venezuela, were they? What were those?

A. There was a suit brought against our distributor, either against his corporate name or against him individually, and I do not recollect which, but it would be against Vacuum Truck Company, a Venezuelan corporation, or against J. D. Bryan, who is the equivalent of the president of that particular corporation, and I think he is termed an administrator, so the suit was against either or both, whichever the particular case might be, and was instituted in Eastern Venezuela in what is known as Estado de Anzoategui.

Q. And that is in what general territory? What was that, what city?

A. In Eastern Venezuela, and Estado de

(Testimony of Kenneth A. Wright.)

Anzoategui is one of the states of the Republic of Venezuela, the same as California is a state of the United States, the suit having origin, as I understood it, in either Cantaura or Barcelona, but the final hearings were held in Barcelona prior to moving [3336] the case to the Supreme Court of Venezuela in Caracas.

Q. And that was in the Eastern District of Venezuela or Eastern portion of the country of Venezuela, was it? A. That is correct.

Q. And that is in the oil field country?

A. That is correct. And the other suit was brought in the Federal District in Caracas, a district, as I understand it, the same as we have in Washington, D. C., that is, Distrito Federo, which is the same as the District of Columbia.

Q. In this suit in Barcelona or in the Eastern District against the Vacuum Truck Company, did the court issue a so-called Inter Dicto?

A. They did.

Q. And an Inter Dicto is what?

A. An Inter Dicto is the same as an injunction.

Q. And how long did that injunction stand?

A. According to my recollection, the Inter Dicto was issued about the 1st of October, 1951, and was cancelled in February or March of 1952. That is my recollection.

Q. And cancelled by what?

A. Well, we appealed the case from the first court to the second court and the second court reversed the ruling of the lower court and dissolved

(Testimony of Kenneth A. Wright.)

the Inter Dicto and that terminated the Inter Dicto which was to the effect that Bryan or Vacuum Truck could not either sell or import Nu-Coil [3337] scratchers into the Republic.

Q. Nu-Coil? Nu-Coil or Multiflex?

A. No, Mr. Lyon. It was against Nu-Coil scratchers.

Q. Now, was an appeal taken from the appellate court's decision dissolving the Inter Dicto?

A. Well, the Corte Superior, if that is an appeal court, then that is what it is.

Q. All right. It was taken to a higher court, that matter, was it not?

A. That is right. The second court dissolved the Inter Dicto and it was thereafter taken to the Supreme Court of Venezuela, and the decision of the Corte Superior was affirmed so that the Inter Dicto is permanently terminated.

Q. Now, there were also two suits filed some time thereafter, in Canada, were there not, Mr. Wright? A. That is correct.

Q. And those two suits were both filed after July of 1951, after the time that Mr. Houghton gave those instructions with respect to the purchase of scratchers in Canada, were they not?

A. My memory is just a little vague on when they were filed, but that is approximately correct.

Q. Now, one of those suits was filed against the Import Tool Company and was filed by whom, do you recall? [3338]

A. In one of them the complainant was Hall

(Testimony of Kenneth A. Wright.)

Development Corporation of Venezuela, or Porto Rica, as I recall it.

Q. I believe that file is in evidence. And the other suit was filed against B & W, was it not?

A. That is my understanding. [3339]

* * *

Q. (By Mr. L. E. Lyon): Now, Mr. Wright, there were certain proceedings instituted, I believe, in the Patent Office in Mexico by you, known as nullity proceedings in Mexico, is that correct?

A. That is correct.

Q. And that nullity proceeding was directed against the scratcher patent issued to Mr. Hall, was it not?

A. That is correct.

Q. And the Patent Office in Mexico upon that nullity proceeding held the patent lacked novelty, did it not?

A. That is correct.

Q. Appeal was taken on behalf of Hall to the court in Mexico in that proceeding, was it not?

A. That is correct.

Q. The court affirmed the Patent Office ruling, did it not?

A. That is correct.

Q. Then, appeal was taken from the court in Mexico, from the district holding in Mexico, was there not?

A. That is my understanding.

Q. The way this matter stands now, then, rather than in an effort to reduce the number of suits that were filed, which I sought to do when I came into this matter, there are more suits now actually pending than when I started, aren't [3340] there?

(Testimony of Kenneth A. Wright.)

A. I would have to count them up, Mr. Lyon.

Q. Well, there are four in Venezuela and one in Mexico, that is five, and we got rid of four, but one of them was immediately refilled, so we advanced three and got five, is that the net result?

A. That is approximately so. [3341]

* * *

Q. Mr. Wright, after this meeting in the California Club of August 22, 1946, with Mr. Scofield, did you consider that there was any contract existing between you and Mr. Hall?

A. Well, as far as I was concerned I couldn't see how any contract could have existed after the statements he made, followed by the letter which came within the next [3342] three or four weeks.

Q. And those statements and letters advised you as to what?

A. Mr. Hall was not going to pay any more royalties to B & W. That is what the letter said, which followed his statements to us there in the California Club, "us" being Mr. Barkis and myself. And he said that we must sign the amended contract or amendment to the contract which he offered to us, and if we did not, why, we were going to be sued. And it was left on an ultimatum basis—sign it or else—and no more royalties and we are through.

Q. And you advised Mr. Scofield that you would not sign the so-called modified agreement?

(Testimony of Kenneth A. Wright.)

A. I told him that and followed it by not signing it.

Q. And then you, in effect, sat back and waited to be sued, is that correct?

A. Yes, and that event did take place.

Q. I believe, Mr. Wright, there is one other model that you have prepared, which is Exhibit EL, which has been heretofore marked for identification by me and exhibited to counsel for plaintiff.

The Court: Mr. Lyon, have you offered in evidence Exhibit FT?

Mr. L. E. Lyon: I will at this time, your Honor. I did not. I noticed it on the back of FT that I had not [3343] offered it. I will offer FT, the drawing prepared by this witness. [3344]

* * *

Q. Mr. Wright, I am placing before you Exhibit 66 for identification, not having been offered yet, and ask you if this has the charts in it to which you referred?

A. I have enlargements of this Figure 1.

Q. Where are they? Enlargements of what? Figures of Teplitz?

A. There are two sections taken from the Figure 1 at selected depths and enlarged so that very close observations can be made.

Q. Yes. Those are EO, EP, which are in evidence, and EQ. EO, EP and EQ.

A. Will you give me those enlargements, please, Exhibits EO, EP, and EQ?

(Testimony of Kenneth A. Wright.)

Q. Are these what you are looking for?

A. That is correct.

Q. All right. Now, you have before you, Mr. Wright, Exhibits EO, EP and EQ, and Exhibit EL for identification, as well as Exhibit 66 for identification. [3346]

A. Exhibit EQ is a photostatic enlargement of Figure 1, page 116 of Exhibit 66, and the enlargement is about in the magnitude of twice as found in Figure 1 in Exhibit 66. And following the enlargement of Figure 1 in obtained Exhibit EQ, there are two particular sections of that graph which I selected to illustrate the point which I wish to emphasize, and perhaps I might make some comments about this Figure 1, and it contains on the one graph the following information:

To the left is a caliper log which states that the bit size was $9\frac{7}{8}$ inches, and a vertical line is drawn there to indicate what the bit diameter would be as on that scale, where it would be positioned if the bit had made a perfectly vertical line.

The next assemblage of records there is what is known as the electrical log, which is also known in the trade as a Schlumberger log, that "Schlumberger" being the names of two Frenchmen who brought this into the industry.

The next graph is the temperature log, on which top of the chart you will see the temperature range over which the observations were made, starting at 145 degrees, roughly, and reaching a maximum of almost 260 degrees. Those were the observed temperatures, recorded and observed temperatures, in

(Testimony of Kenneth A. Wright.)

the well when they made the survey to determine the height of the fill.

On the extreme right-hand side is what is known as a [3347] differential gamma ray log, a scale, and those are observations obtained by running an electrode into the casing or into the well and making observations related to gamma rays.

There was in this particular instance a mineral carnotite placed in the cement to be used as a tracer so these determinations could be made by that method.

The particular point that I am going to illustrate, though, is a reference to the caliper log, and coupled with that a reliance upon the electrical log to the extent of taking the writer's statement of what particular formations existed at those points at which we make the observations. And the points which are to be used are, first, the Exhibit EP. EP is an enlargement of that section of the hole starting with a depth of 8420 and terminating in a depth of 8620. By making this enlargement and giving the photostat company the correct instructions we can arrive at a graph from which direct readings can be made without having to go through calculations or computations.

So that, if you will start with the center line, the purple line there on the left called "center line of hole," and then with a ruler which has divisions in inches measure over, you will find that that line is, as shown there, bit radius, $4 \frac{15}{16}$ inches. Twice what that would be, the $9\frac{7}{8}$, the bit diameter.

(Testimony of Kenneth A. Wright.)

The small, white line through the center of [3348] the indicated diameter is meant to mean the center line of that particular mark, it being observable that the width of the lines themselves, if you did not use a center line in them, might provide somewhat a contentious position.

In the area opposite that approximately where it says "bit size" you will note that on the right it says "shale with streaks of sandy shale," and that is an observation made by Mr. Teplitz and Mr. Hassebrock, the authors.

The electrical log indicates, of course, the confirmation that they were looking for.

So at that point we find, if we measure at that point, a positive depth, 8,470 to 8,480. We have a diameter opposite the shale section, as far as the hole calipers gave us the indicated diameter of—I don't have a scale but I have an associated demonstration here which shows the depth—I mean the diameter of the hole at 8,475.

The Court: You were referring last to what exhibit?

The Witness: Pardon. I had not indicated. I was going to point to Exhibit EL, your Honor. And 8,475 is the point at which the observation was made to provide the material for the Exhibit EL which I have before me.

And I will then go to Exhibit—is there a marking on it—EO? Exhibit EO selects that portion of the well starting with the depth of 9,410 and terminating in the depth of 9,630; and there, again, the

(Testimony of Kenneth A. Wright.)

center line of the hole is [3349] indicated, the red line indicating the bit line to be absolutely true vertical, and the white center line through the graph line which was produced by the hole calipers when they made the recordation.

Now, at 9,560 to 9,575—'74, rather, you will note that a little symbol is made and the word "perf" is written thereon, which was on the original, meaning that is the point they perforated the well for production.

And over on the right-hand side you will see the word "sand" and from the electrical log present and opposite thereof, they determined that those were oil sands, not water sands or gas sands, but oil sands. So that is the place where they perforated the well and emptied to make the successful completion.

The diameter observed, indicated by the hole calipers at that point, is also about 8 13/16ths, which I am reading from this Exhibit EL.

So with that material for a basis to work, I have produced this Exhibit EL, which——

May I put these here, your Honor?

The Court: Yes.

A. This Exhibit EL illustrates—there is one further point I overlooked, your Honor. In the range of depths starting 9,410 and terminating at 9,470 you will find the diameter of the hole reaches almost 15 inches, over on the [3350] left-hand item at the top. So I selected the depth of 9,448 as being

(Testimony of Kenneth A. Wright.)

as close as could be observed, a point to which they make another observation.

So we have a range of diameters in this well throughout that magnitude, and with that as a basis I have made this exhibit, which is a simulated section of 5½-inch casing, placed thereon a 5½-inch Weatherford scratcher having five-inch wires, and then the outer rim of this particular device is actually the diameters incident in those three places in the well that I have mentioned, and which are so stated on the side at these points. And then you can visualize the actual relationship of the wires to the sleeve or collar at that point in what condition it was in to operate at those particular times and those places in the well during the reciprocation.

So the scratcher in this very well for part of the area would not touch the wall of the well some places. It might do it with one angle and with the wires in one condition, and in the area which is the most critical, that is to say, we drilled that oil well to get this sand down here at 9,460 to 9,474, why, this illustrates as far as we will ever know. We will never get down in the hole to take the look. And you can see it demonstrates the actual position of the wires, the relationship of the wires to the sleeve in that particular section of the hole. [3351]

Q. (By Mr. L. E. Lyon): Now, Mr. Wright, in this Exhibit EL for identification the wires which were in the smallest part of the hole, and that is in that section which is marked "depth, 8,475-8-

(Testimony of Kenneth A. Wright.)

13/16ths," the wires are bent toward the collar beyond a straight line position and beyond a position which would be termed a tangent, are they not?

A. Yes, they are.

Q. Over here in this section of the model which lies between 8 13/16ths and the 14 13/16ths section some of the wires are touching, just touching the wall, the inside wall, of this simulated hole or this metal ring, are they not?

A. That is correct.

Q. And those wires that are just touching indicate approximately the angular relationship of the wires to the collar outside of the well, outside of use, do they not?

A. That is right; the same as they would be before you put them in the well.

Q. Is it a fact that if you used a scratcher, the wires of which were tangent to the supporting collar, that the wires to be effective would have to be longer than where the angle is not a tangent or is less than a tangent, we will say?

A. I don't understand your question, Mr. Lyon.

Q. If you have the wires here which we say indicate in Exhibit EL the position of those wires outside of the well, [3352] if that wire was on a tangent—and I will bend it to a tangent position—for that wire to reach the same wall of the hole, that wire would have to be longer, would it not?

A. That is correct.

Q. As the wires increase and you crowd a multiplicity of such wires into a hole, what is the effect?

(Testimony of Kenneth A. Wright.)

A. As the wires increase?

Q. In length.

A. Well, then they wrap around the body of the sleeve prior to extending out to contact the wall of the hole.

Q. Is there any effect, then, of the wires to ball up one on the other?

A. Well, you are using "ball up"—is a very broad word, Mr. Lyon.

Q. Well, tangle up?

A. The exhibit speaks pretty well for itself, and if they are pretty closely crowded together in that position, if that is "ball up," then, crowded close together is what you are talking about.

Q. Well, as you increase the length of them, why, their tendency to tangle as the scratcher is lowered in the well increases, does it not?

A. That is right; executes that [3353] particular——

* * *

Q. (By Mr. L. E. Lyon): You never have used a scratcher with a tangent wire on it, have you?

A. Is "tangential" meant by you to be a true tangent?

Q. A true tangent.

A. Never intentionally, although in transit the wires are bent some, to some degrees, so you might find one with a couple of wires on it tangent, but it would be because of the handling rather than the actual intention to construct them in that way.

(Testimony of Kenneth A. Wright.)

Q. Now, how are these scratchers handled so that any such bending could occur?

A. Well, the devices, after being completed, are normally—as far as B and W are concerned, we place them in what we call wire bound boxes and cram them in together, as many as we can in a box. So there is no attempt made to protect them or try to maintain this angular relationship of the wire to the sleeve. They are just crammed in the box, and I mean crammed in the box.

The Court: They are designed to withstand rough usage, are they?

The Witness: That is correct, your Honor.

The Court: Do you have any opinion as to the relative efficacy of the true tangent as compared with the non-tangential? Is that what you are after, Mr. Lyon?

Mr. L. E. Lyon: That might be, yes, your [3355] Honor.

The Witness: As far as the effectiveness in the well, an unbelievable range of things will give satisfactory results, your Honor.

The Court: You would not be able to express an opinion as to whether one would be more efficacious than the other?

The Witness: That is correct. We end up with this: We perforate the well and determine what fluid comes from the perforations, and that is what we end up with, as a test for what the scratcher did.

The Court: If it works, it is good, is that it?

The Witness: If we determine that we have oil

(Testimony of Kenneth A. Wright.)

and it is free of water and it is clean and we perforate it and we get pipeline oil and we get clean oil, we say that is fine.

Q. (By Mr. L. E. Lyon): Do the records of the Kelly well show success of operation as measured by the tests, the standards of which you have just stated, Mr. Wright?

A. That is correct.

Q. And do the records of the wells on which your wall-cleaning guides——

A. Correction. Mr. Sweetser made that statement in his deposition, so I am relying upon his statement.

Q. Do the records of the Union Oil Company, of the Rosecrans wells, 38 and 39, show, as you studied those logs, a successful operation? [3356]

* * *

The Witness: Well, I don't remember all these statements in those Union Oil Company records, but the engineer that worked with Union Oil Company at the time gave a deposition and either one or the other or both contains the information that the cementations were successful.

Mr. L. E. Lyon: That is all.

I will offer Exhibit EL, the model the witness just described or demonstrated, in evidence, your Honor. [3357]

* * *

In the United States District Court, Southern
District of California, Central Division

Civil Action No. 7839-WM

JESSE E. HALL,

Plaintiff,

vs.

KENNETH A. WRIGHT and B & W, INC., a
California Corporation,

Defendants.

STATEMENT OF FACTS PURSUANT TO
ORDER FOR PRETRIAL

Pursuant to the pretrial order of the Court, the parties, through their respective counsels, agree to the following facts, in which have been included the documentary Exhibits of the parties as listed upon the attached and made a part hereof.

1. That the plaintiff Hall on April 16, 1941, filed his application Ser. No. 388,891, plaintiff's Exhibit 1.

2. That on March 27, 1944, Hall filed his application Ser. No. 528,183, plaintiff's Exhibit 2. [3259]

3. That on November 6, 1945, Hall filed his application Ser. No. 627,013, as a continuation in part of application Ser. No. 388,891, plaintiff's Exhibit 3.

4. That prior to September 15, 1944, Hall manufactured and sold scratchers of the form shown in Figs. 1 and 2 of application Ser. No. 627,013.

5. That prior to September 15, 1944, a catalog entitled "Weatherford Spring Company," consisting of twelve pages, including cover and back, plaintiff's Exhibit 4, was being distributed to the trade by the plaintiff.

6. That plaintiff's Exhibit 5 is a true copy of an advertisement published in the Oil & Gas Journal issue of April 30, 1942, which includes a cut of the scratcher illustrated on page 7 of Exhibit 4.

7. That defendant Wright knew at the time of the settlement on September 15, 1944, that plaintiff Hall had theretofore put out the said pamphlet Exhibit 4.

8. That plaintiff and defendants prior to September 15, 1944, and thereafter up to the bringing of this action have sold competing scratchers which were generally sold in the same market in the United States and generally compete for the patronage of the same customers.

9. That the defendants did on or about July, 1946, and have at various times thereafter called the attention of some of Hall's prospective customers to the license agreement of [3260] September 15, 1944, and stated that any rights that the plaintiff Hall had were covered by the provisions of said agreement and that in defendants' opinion the plaintiff Hall had no rights under the scratchers shown in Figs. 1 and 2 of application Ser. No. 627,013.

10. That defendants have not issued and have not offered to issue licenses to customers of Hall

who have purchased scratchers in the form shown in Figs. 1 and 2 of application Ser. No. 627,013, or anyone else other than the license granted Hall in the agreement of September 15, 1944; that no express license has been issued to the purchasers of defendants' scratchers and covering the method of use thereof.

11. That defendants have not brought any action for infringement against any of plaintiff's customers.

12. Hall-Wright Interferences. That plaintiff's Exhibit 6 is a true copy of an interference file No. 81,240 declared between an application of plaintiff Hall Ser. No. 388,891, filed April 16, 1941, and an application of defendant Wright Ser. No. 369,389, filed December 10, 1950; that plaintiff's Exhibit 7 is a true copy of the interference file No. 81,599 involving application of plaintiff Hall Ser. No. 528,183 filed March 27, 1944, and defendant Wright's patent 2,338,372 issued January 4, 1944; that plaintiff's Exhibit 8 is a certified copy of the Wright application Ser. No. 369,389 filed December 10, 1940, issued as patent [3261] 2,374,317 dated April 24, 1945; that plaintiff's Exhibit 9 is a certified copy of Wright application Ser. No. 291,027 filed August 19, 1939, issued as patent 2,338,372 dated January 4, 1944.

13. That one, Ben McKinley, since deceased, took it upon himself to bring the plaintiff Hall and the defendant Wright together for the purpose of endeavoring to settle said interference. That as a part

of said McKinley's activities he wrote Hall letters dated 5/30/44, plaintiff's Exhibit 10; 7/2/44, plaintiff's Exhibit 11; 8/16/44, plaintiff's Exhibit 12 and 9/6/44, plaintiff's Exhibit 13; that in reply thereto the plaintiff Hall directed to said McKinley a letter dated 7/13/44, plaintiff's Exhibit 14, and a letter dated 8/29/44, plaintiff's Exhibit 15.

14. The settlement contract dated September 15, 1944, Exhibit D attached to the complaint, was prepared in the office of Wright's patent attorney, W. H. Maxwell. Included among those present were Messrs. J. E. Hall, Sr., K. A. Wright, W. H. Maxwell, B. H. McKinley, J. E. Hall's son, Elmer. Hall was not represented by counsel and there is dispute as to what transpired during the preparation of the settlement agreement.

15. Hall and Wright proceeded under the settlement arrangement of September 15, 1944, without controversy until July, 1946; that in August, 1946, defendant, B & W, Inc., [3262] directed a letter to Shell Oil Company, plaintiff's Exhibit 16; that as a result of the receipt of said letter Shell Oil Company, through its attorney Bernard J. Gratama, directed a letter to plaintiff's counsel under date of August 13, 1946, plaintiff's Exhibit 17; that plaintiff's Exhibit 18 is a true copy of a wire received by plaintiff's counsel from A. M. Houghton, patent counsel for Gulf Oil Company, on April 28, 1947; that plaintiff's Exhibit 19, is a wire sent by B & W, Inc., to Gulf Oil Company dated April 12, 1947; that plaintiff's Exhibit 20 is a letter sent Gulf Oil Com-

pany by plaintiff J. E. Hall dated May 13, 1947; that plaintiff's Exhibit 21 is a true copy of an indemnification given Standard Oil Company of California, on June 13, 1947, by plaintiff's counsel.

16. Defendants admit Hall and his customers, purchasers of Hall scratchers, are privileged to practice the method of Hall as disclosed and claimed in application Ser. No. 528,183, but insist that the scratchers used in such method must conform to the design of the drawings of Hall application Ser. No. 388,891.

17. Plaintiff's counsel in August, 1946, made a trip to Los Angeles and submitted a supplemental agreement framed according to the paper Exhibit E attached to the complaint. Besides this trip in August, 1946, a conference was held in Houston in the latter part of January, 1948, attended by [3263] counsel for plaintiff and defendants and by the parties themselves to work out a settlement of differences.

18. Since August, 1946, Hall has indemnified certain of his customers against the possibility of infringement litigation brought by B & W, Inc., and pertaining to the use of scratchers sold by plaintiff.

19. Bearing upon an adjustment of the settlement agreement of September 15, 1944, the letters scheduled below are stipulated as true copies of the correspondence between the parties and/or their attorneys:

Plaintiff's Exhibit 22—copy of a letter dated August 21, 1946, from plaintiff's counsel to K. A. Wright;

Plaintiff's Exhibit 23—copy of a letter dated September 27, 1946, addressed to J. E. Hall, Sr., by K. A. Wright;

Plaintiff's Exhibit 24—copy of a registered letter dated October 7, 1946, addressed to K. A. Wright by plaintiff's counsel;

Plaintiff's Exhibit 25—copy of a registered letter dated May 13, 1947, addressed to K. A. Wright by plaintiff's counsel;

Plaintiff's Exhibit 26—a two-page letter dated May 14, 1947, addressed to plaintiff Hall by J. Harold Decker;

Plaintiff's Exhibit 27—copy of a letter dated May 19, 1947, addressed to J. Harold Decker by plaintiff's counsel;

Plaintiff's Exhibit 28—a letter dated June 11, 1947, [3264] addressed to plaintiff's counsel by J. Harold Decker;

Plaintiff's Exhibit 29—copy of a letter dated June 18, 1947, addressed to J. Harold Decker by plaintiff's counsel;

Plaintiff's Exhibit 30—copy of a letter dated September 19, 1947, addressed to J. Harold Decker by plaintiff's counsel;

Plaintiff's Exhibit 31—a letter dated September 30, 1947, addressed to plaintiff's counsel by J. Harold Decker;

Plaintiff's Exhibit 32—copy of a letter dated

October 6, 1947, addressed to J. Harold Decker by plaintiff's counsel;

Plaintiff's Exhibit 33—copy of a registered letter dated November 29, 1947, addressed to K. A. Wright by plaintiff's counsel.

20. That plaintiff's Exhibit 34 is the agreement dated September 15, 1944, between plaintiff and defendants (Exhibit D attached to the complaint).

21. That plaintiff's Exhibit 35 is the proposed supplemental agreement (Exhibit E attached to the complaint).

22. That plaintiff's Exhibit 36 is the assignment (Exhibit C attached to the complaint).

23. That plaintiff's Exhibit 37 is Wright patent 2,338,372 (Exhibit A attached to the complaint).

24. That plaintiff's Exhibit 38 is Wright patent 2,374,317 (Exhibit B attached to the complaint).

25. That plaintiff's Exhibit 39 is Wright patent 2,392,352. [3265]

26. That defendants' Exhibit A is an advertisement of plaintiff appearing in the Oil Weekly of July 7, 1941.

27. That defendants' Exhibit B is an advertisement of plaintiff appearing in the Oil & Gas Journal of September 11, 1941.

28. That defendants' Exhibit C is a mimeographed copy of a paper entitled "Oil Well Cementing, etc.," by P. H. Jones and Denis Berdine, sub-

sequently published in the Petroleum World of June, 1940, Volume 37.

29. That defendants' Exhibit D is plaintiff Hall's statement of royalties due for the last quarter of 1944 and accompanying check for royalties.

30. That defendants' Exhibit E is plaintiff Hall's statement of royalties due for the first quarter of 1945 and accompanying check for royalties.

31. That defendants' Exhibit F is plaintiff Hall's statement of royalties due for the first quarter of 1946 and accompanying check for royalties.

32. That defendants' Exhibit G is plaintiff Hall's statement of royalties due for the second quarter of 1946 and accompanying check for royalties.

Dated: This 15th day of May, 1948.

/s/ THOS. E. SCOFIELD,

/s/ PHIL SUBKOW,

Attorneys for Plaintiff.

/s/ LYON & LYON,

/s/ R. E. CAUGHEY,

Attorneys for [3266] Defendants.

* * *

WILLIAM A. DOBLE

called as a witness by defendants, being first sworn, was examined and testified as follows:

The Clerk: Will you state your name, please?

The Witness: William A. Doble.

Direct Examination

By Mr. L. E. Lyon:

Q. What is your occupation, Mr. Doble?

A. I am a professional engineer, registered professional engineer in the State of California.

Q. You are engaged in a business. What is that business? [3440]

A. I am engaged in a consulting engineering business relating primarily to patent matters, patent cases, patent investigations and the like.

Q. Are you a registered patent attorney, registered to practice before the United States Patent Office?

A. Yes, sir.

Q. Have you at any time during your professional activity actually prepared and prosecuted patent applications before the United States Patent Office?

A. Yes, sir; I have.

Q. Do you do any of that work now?

A. No, I haven't on my own account practiced before the Patent Office for some—oh, 12 to 14 years, I would judge.

Q. How long have you been engaged in this engineering practice of advising prospective patentees, Mr. Doble?

A. Approximately 30 years, taking out the time

(Testimony of William A. Doble.)

I spent in the second World War serving with the Government.

Q. You say you are a registered engineer, registered to practice in the State of California?

A. Yes, sir.

Q. You received your training in engineering where? A. Stanford University.

Q. Have you at any time acted in the capacity of an expert witness in patent matters before the courts? [3441] A. Yes, sir.

Q. For how many years have you been engaged in that activity?

A. Oh, I would say between 25 and 30 years.

Q. You have testified in the courts in California, have you? A. Yes, sir.

Q. Both the Northern and Southern Districts?

A. Yes, sir.

Q. And in other states in the United States?

A. Yes, sir.

Q. In what states?

A. The State of Washington, the State of Ohio, and the State of Oklahoma.

Q. Arizona? A. And the State of Arizona.

Q. Oregon? A. And the State of Oregon.

Q. All of these in different patent cases?

A. Yes, sir.

Q. Involving what type of patents, Mr. Doble?

A. Generally patents related to mechanical devices, a great many different natures.

Q. Has the Circuit Court of Appeals of the

(Testimony of William A. Doble.)

Ninth Circuit at any time commented upon your activity as a [3442] patent expert?

A. Yes, sir.

Q. In what cases?

A. In the case of International Harvester Company v. Killefer Manufacturing Co.; and in the case of the Killefer Manufacturing Co. v. Dinuba Associates, Ltd.

Q. Do you have the citations to those cases?

A. Yes, sir. I have the citation in the Patent Quarterly, volume 19, pages 9-13; and there appears on page 11 the following quotation:

“The only expert witness who testified at the hearing before the Special Master was W. A. Doble, Jr., called on behalf of defendants as mechanical engineer and qualified as such expert.”

At that time I operated under the name of William A. Doble, Jr. Since that time my father has passed away and I have dropped the “Junior.”

That quotation is found in the case of International Harvester Co. v. Killefer Manufacturing Co.

Then, again, in the case of Killefer Manufacturing Co. v. Dinuba Associates there appears—the citation is found in the Patent Quarterly, volume 19, pages 124 through 129, and the following quotation is found on page 146;

“These were segregated into three types by the witness William A. Doble, Jr., who testified [3443] for the defendant. We quote from his testimony the following classification which seems to be an accurate description of the various types.” [3444]

(Testimony of William A. Doble.)

Q. (By Mr. L. E. Lyon): In what cases have you recently testified in the Southern District of California, in the federal court, do you recall, Mr. Doble?

A. Yes. I just recently testified in the case of Niagara Blower Company, a corporation, versus Refrigeration Engineering Corporation, and that case was heard by Judge Ernest A. Tolin.

I also testified in the case of the Huck Manufacturing Company versus the Townsend Company, and that case was likewise tried before Judge Ernest A. Tolin.

Q. You recently testified in the Northern District of California in a case; what was that case?

A. That case was the case of Charles H. Martin versus the Be-Ge Manufacturing Company of Gilroy, and that case was tried before Judge Lemmon in San Francisco.

Q. When?

A. The trial was started December 15th.

Q. That was during a recess in this trial, was it not?

A. Yes, sir.

Q. Who were the attorneys that tried that case?

A. The attorney for the defendant, whom I worked with, was primarily Mr. Percy Webster. He was a directing attorney, but due to certain conditions in his family he was unable to attend the trial, so the firm of Flehr and Swain tried the case. An attorney by the name of John Swain was the actual [3445] attorney that tried the case.

(Testimony of William A. Doble.)

Q. All right. Now, have you made a study of the K. A. Wright patents, No. 2,338,372, Exhibit 37; No. 2,374,317, Exhibit 38, and the K. A. Wright Patent No. 2,392,352, Exhibit 39?

A. Yes, sir.

Q. In that study, have you considered the prosecution of the applications which resulted in the grant of those patents, as of when they were pending before the United States Patent Office?

A. Yes, sir.

Q. Have you conducted or witnessed any tests of apparatus as shown in the '317 patent, Exhibit No. 38?

A. Yes, sir, I have directed the testing of such an apparatus.

Q. Have you in those tests made any comparative tests of the operation of the plaintiff's structure, the Weatherford scratchers, as those scratchers are exemplified by a scratcher like that included in Exhibit EL, Mr. Doble?

A. Yes, sir, I have.

Q. I will hand you a scratcher which I have marked for identification as Exhibit EJ and ask you if you have tested any scratchers of the plaintiff like Exhibit EJ?

A. Yes, sir, I have.

Q. Now, in testing the scratchers like Exhibit EJ, did [3446] you make any change in the scratcher?

A. Yes, sir.

Q. What change was that?

A. It was necessary to shorten the length of the wire bristles to operate in a 6 $\frac{7}{8}$ -inch diameter cylinder, and to that extent the Hall type or

(Testimony of William A. Doble.)

Weatherford type of scratcher that I tested was different from Exhibit EJ.

Q. The scratcher which you actually tested, of the Weatherford Company, like Exhibit EJ, was placed in evidence before, in the public-use proceedings, was it not? A. Yes, sir.

Q. Was that identical with Exhibit EJ except for the length of the wires?

A. Yes, sir, allowing for the slight differences there are in the manufacture of scratchers of this nature. No two are really identical. [3447]

* * *

The Court: Well, the foundation is laid and the objection is overruled. The exhibit is received in evidence.

The Clerk: Exhibit EJ. [3450]

* * *

The Witness: —19.

The Court: Do you wish to start with 11?

The Witness: I would prefer to start with Exhibit NNNN-11.

Mr. L. E. Lyon: Let us see if that is the same one, Mr. Doble.

The Witness: Yes, that is the same as his Honor has.

A. Illustrated or depicted in Exhibit NNNN-11 is a testing machine built for the purpose of testing the operation of the several different types of scratchers so as to determine their operating char-

(Testimony of William A. Doble.)

acteristics; and the type of machine which is shown in Exhibit NNNN-11 follows the recommendation made in the Hall file wrapper 627,031.

Q. 013? A. 013.

Q. Exhibit what?

A. Exhibit K. And in that file wrapper I will refer to page 8, lines 11 to 19.

Q. In this case, Mr. Doble—pardon me—I believe you are reading from the exhibit. You might hand that one—[3453] and this is our copy—so that you will follow the same procedure all the way through.

The Court: These photographs have only been marked for identification, is that correct?

Mr. L. E. Lyon: Yes, your Honor; I believe that is correct.

The Court: Is there any objection on the part of the plaintiff to the court making use of them?

Mr. Scofield: No, sir.

The Court: Very well. I have before me Exhibit K open at page 8.

The Witness: Yes, your Honor. And if you will read from line 11 through line 16—pardon me—from line 26 on page 8, through line 11 on page 9?

The Court: Line 26, beginning with “The unusual mechanical action”?

Mr. L. E. Lyon: Yes, sir.

The Witness: Yes, your Honor. Shall I read that in the record, Mr. Lyon?

The Court: It might make it more readable.

The Witness: Thank you.

(Testimony of William A. Doble.)

A. "The unusual mechanical action of the abrading wires has been determined by mounting the scratcher on a piece of pipe and reciprocating it within a pipe of larger diameter. As the scratcher is being [3454] run in a dummy oil well of this sort it has been noted that the whiskers are pointed upwardly in the same direction as the scratcher is lowered into the hole, and as the direction of the scratcher is reversed the free ends of the wires hold their position against the inside of the pipe or well bore as they are rotated upon their coiled springs as fulcrums. As the wires rotate in arcs passing from the relative vertical to a horizontal position with reversal of the movement of the pipe, the scratcher sleeve or collar is caused to rotate upon the pipe, relieving somewhat the tension in the wires."

Then I will refer to Plaintiff's Exhibit 69, which is the file wrapper, Hall file wrapper serial No. 55619. [3455]

* * *

The Witness: Yes, I would like to read it, your Honor, if I may.

The Court: You may.

A. "As the scratcher is being run in a dummy oil well of this sort——"

Excuse me. I got the wrong line. Strike.

"The unusual mechanical action of the abrading wires has been determined by mounting the scratcher on a piece of pipe and reciprocating it within a pipe of larger diameter. As the scratcher is being run

(Testimony of William A. Doble.)

in a dummy oil well of this sort, it has been noted that the whiskers are pointed upwardly in the same direction as the scratcher is lowered into the hole, and as the direction of the scratcher is reversed the free ends of the wires hold their position against the inside of the pipe or well bore as they are rotated upon their coiled springs as fulcrums. As the wires rotate in arcs passing from the relative vertical to a horizontal position with reversal of the movement of the pipe, the scratcher sleeve or collar is caused to rotate upon the pipe, relieving somewhat the tension in the wires. This eliminates the dead thrust action longitudinally of the wires which is present when the sleeve is fixed on the casing and the wires are [3456] rigidly attached to the sleeve."

Mr. Scofield: Is that "dead thrust"? Did you say "dead thrust"?

The Witness: Yes, I did. I will read that. "This eliminates the dead thrust action."

Then, next, I would like to refer to Plaintiff's Exhibit 4 and to page 8 of Plaintiff's Exhibit 4, reading——

Mr. L. E. Lyon: Just a moment. [3457]

The Court: Plaintiff's Exhibit 4 is a catalog of the Weatherford Spring Company.

The Witness: Yes, your Honor.

The Court: Very well.

The Witness: And page 8, reading the left-hand column under the title, "Weatherford's Reversible Scratcher Crawls for Complete Cleaning Job," and I will read that whole paragraph entitled "Fig. 5":

(Testimony of William A. Doble.)

“A Weatherford Scratcher on casing, that is centered by Spiral Centralizers, has conformed to the pattern of the well and also has crawled around its entire surface as the casing was reciprocated to remove jelled mud from a key-seat and mud cake growth from out of crevices and bit rout-outs. In order to observe this crawling action and also the reversing action of the Weatherford Scratcher, the operator need only shove one into a joint of surface pipe and work it back and forth with the strength of the hands.”

Those statements by the plaintiff, that the scratcher may be tested in a pipe of larger diameter than the casing, were adopted by defendant in making the machine, testing machine, as illustrated in Defendants' Exhibit NNNN-11. The machine as shown in this exhibit includes a stand——

Mr. L. E. Lyon: Now, pardon me, Mr. Doble, but does [3458] the court have Exhibit NNNN-11 before it?

Wait until the court has Exhibit NNNN-11 before it, please.

The Witness: Yes, sir, it does.

The Court: That is the photograph?

The Witness: That is the photograph, your Honor.

Briefly, that structure, photograph, Exhibit NNNN-11, includes a three-legged stand having a cylindrical collar affixed at its upper end, upon which cylindrical pipe such as shown in this Exhibit

(Testimony of William A. Doble.)

NNNN-11, and there indicated by the numeral 24, is supported on the flange by a circular flange which is formed integral with the pipe section 24.

In order to eliminate any tendency of operating the scratcher through the pipe or cylinder 24 which might affect its rotating action, a rod, which in this case is a square rod, and I will describe it more fully later on, as I wish now merely to give an overall picture of the apparatus, was provided with sliding bearings through sufficient portions of the triangular frame so that that rod could be reciprocated up and down without influence of the operator in any way affecting the rotating characteristic of the scratcher under test.

The mounting on that square rod is a simulated casing. A simulated casing is provided with stops at the top and bottom, as I will point out later, and between those stops is secured or fastened one of the scratchers which is to be [3459] tested.

The scratcher is free to rotate on the simulated casing. It is free to travel between the two stops.

By means of the crank handle which extends to the right of the tripod or three-legged frame—that is an operating lever. So, by means of raising the lever, the square rod is caused to move downwardly to carry the scraper or scratcher through the cylinder and in that way to observe the action of that scratcher during its travel through the casing.

And then, by reversing the actuation of the operating handle, reversal of the scratcher can be obtained and the scratcher moved to the upper end of the

(Testimony of William A. Doble.)

cylinder. That operation can be repeated as many times as desired.

In relation to the actual construction of the test frame, I call attention to Defendants' Exhibit NNNN-12.

Mr. L. E. Lyon: Wait a minute, now. Pardon me for just one moment, please, Mr. Doble. You are using Exhibit NNNN-11. Thank you.

Pardon me, your Honor.

The Witness: That is it. I am now referring to Defendants' Exhibit NNNN-12, and, as your Honor will observe, the frame here is stripped and does not contain the cylinder with its flange, nor does it contain the simulated casing nor the scratcher mounted on the simulated casing.

In this figure it will be observed that there [3460] are certain numbers which have been placed on the photograph, representing the several parts of the structure. For example, the three legs are designated by the numerals 1, 2 and 3. The frame is provided with the ring 4 to which the upper ends of the three legs are securely welded.

Below the ring 4, the frame is provided with a brace structure 5 and also with a brace structure 6.

The two brace structures, 5 and 6, are provided with bearings 7, which bearings 7 are provided with square holes through which the square operating shaft 8 is free to slide and yet is prevented from rotation.

Pivottally connected to the lower end of the square operating rod, at 9, are a pair of actuating links 10.

(Testimony of William A. Doble.)

The links 10 extend upwardly and are joined to the inner end of the crank lever 11.

In turning the crank, lever 11 is pivoted or joined upon the front leg 1 of the test frame by the bearing 13.

As shown in this view, there is a pin 14 which extends through the front leg 1 and against which the forward end of the crank arm engages. That pin is for the purpose of holding the square operating rod or reciprocating rod in its upper position and preventing movement of the crank handle until that pin 14 has been removed.

The very forward end of the crank arm is provided with an operating handle 12 for convenience of the operator in [3461] causing the reciprocating rod to move upwardly or downwardly with relation to the frame.

Next it will be observed that positioned on the square reciprocating rod are bearing supports or bearings 15 and 16. Each of these bearing supports is provided with a Timken bearing.

Does your Honor have any question with regard to the structure of that portion of the machine which I have now described?

The Court: How do you operate arm 12? Does this turn?

The Witness: No. That swings——

The Court: Well, does it go up and down?

The Witness: It is like pumping an old well, a water well.

The Court: I was wondering why it is con-

(Testimony of William A. Doble.)

structed in such manner as that. Is that to give you additional leverage?

The Witness: Yes, and to make it at a more convenient angle for the operator to actuate, and, of course, before that handle can be operated, the pin 14 must be removed.

The Court: I think I understand it.

The Witness: Then, if your Honor will turn to Defendants' Exhibit NNNN-13, we find the frame of a test machine in the same condition and in the same relationship as shown in the previous exhibit, Defendants' Exhibit NNNN-12. However, there has been added to the upper end of the reciprocating square rod 8 a simulated well casing 18. [3462]

And in this exhibit, mounted on the simulated casing 18 are stop rings 20 and 21. The stop ring 20 is the lower of the two rings, and the stop ring 21 is positioned adjacent the upper end of the simulated casing. Those stop rings are provided with Allen setscrews for locking the stop rings in any adjusted position or to provide for their removal from the simulated casing 18 in a convenient manner.

I would also call attention at this time to the lockscrew 19 which projects downwardly through the upper bearing bracket 15 and is used for engaging the upper edge of the simulated casing 18 so as to lock the simulated casing 18 against rotation with relation to the square reciprocating rod 8.

Now, I would next turn to Defendants' Exhibit NNNN-15, and this exhibit is similar to the other

(Testimony of William A. Doble.)

exhibits which I have referred to, with the exception that only the upper portion of the test frame has been illustrated and added, to the other exhibits which I have described, the cylinder 24.

In connection with Exhibit NNNN-15, I would also like to refer to Defendants' Exhibit NNNN-11, which shows the entire test machine and illustrates the same parts which have been added to the test frame as are shown in Exhibit NNNN-15.

So we find added to the test frame flange 23 of the cylinder 24.

In Defendants' Exhibit NNNN-11 the numerals appear on [3463] the photograph, whereas, in Defendants' Exhibit NNNN-15, the numerals are not indicated on the photograph.

Exhibit NNNN is an enlargement and shows more clearly the upper portion of the test frame as it appears in Exhibit NNNN-11.

The Court: What was that last?

The Witness: NNNN-11 (indicating exhibit).

The Court: Preceding that?

The Witness: NNNN-15 (indicating exhibit).

The flange of the cylinder 24, cast flange 23 of cylinder 24, is removably secured upon the ring 4 of the test stand by means of thumbscrews 25, so that the cylinder may be readily mounted upon or removed from the test frame.

I now call attention to a scratcher—I believe I have indicated the other scratcher by the numeral 22—which is mounted on the simulated casing 18

(Testimony of William A. Doble.)

and is confined thereon by the lower collar, stop collar 20, and the upper stop collar 21.

The scratcher 22 is free to rotate on the simulated casing 18 as well as slide between the two stops 20 and 21.

Now, the machine as it was set up and operated is ready to demonstrate the operation of the scratcher 22 in its entrance into the cylinder, its progress through the cylinder down to the bottom of the cylinder. It was not run through the bottom, but stopped adjacent the bottom of the cylinder. [3464]

The Court: What is the length of that cylinder?

The Witness: It is about a foot and a half, your Honor, as I remember it.

The Court: Is there any particular reason for that particular length?

The Witness: Just convenience of operation, your Honor. It would not make any difference if it were a hundred feet. The main operation takes place, that we are interested in, at the reversal points, where you start upwardly from the bottom stroke or downwardly from the upper end of the top stroke.

The Court: And that reversal point is determined by the lugs on the casing, the station of the lugs on the casing?

The Witness: Yes, your Honor, plus the amount you operate the handle. You operate the handle to move the scratcher downwardly to the bottom of the cylinder and then you reverse the motion of the

(Testimony of William A. Doble.)

handle, so as to move the scratcher upwardly through the cylinder to the upper end of the cylinder.

The Court: Well, I wasn't referring to this particular device. I was referring to its use in a well.

The Witness: Yes.

The Court: You simulated that condition, I take it by these two rings here, so that when the scratcher is going up [3465] or down within the space permitted between the two rings—they are numbered——

The Witness: 20 and 21, your Honor.

The Court: ——20 and 21, then the reversal takes place, is that it?

The Witness: That isn't quite so. For example supposing we start with Exhibit NNNN-11. Now, we want to pass the scratcher 22 down through the cylinder. We cause the operating handle to move, which in turn causes the reciprocating rod 8 to move downwardly. The first thing that will happen is that the wires of the scratcher 22 will engage the upper surface of the cylinder, and that is shown in Exhibit AT. [3466]

The Court: When the wires of the scratcher engage the rim of the pipe at the well, the rim of the casing, Figure NNNN-15, then I take it the wires bend upward?

The Witness: Not when they first engage it, your Honor.

The Court: When pressure is applied they will bend upward, will they not?

The Witness: That is correct, then, your Honor.

(Testimony of William A. Doble.)

First of all the wires will engage the upper surface of the flange of the cylinder. The scratcher will stay stationary during the movement of the simulated cylinder through it until the upper stop 21 engages the upper surface of the sleeve of the scratcher, and then force can be applied to the scratcher to force it down into the cylinder; and at that time the wires of the scratcher will flex upwardly and angularly forwardly. They resist moving into the bore of the casing 24.

The Court: I take it at a certain point on the descent they take a position and retain that position?

The Witness: Yes, your Honor. And then when the operating shaft moves upwardly, the scratcher will remain stationary until the upper stop ring engages the bottom of the scratcher, the scratcher body, and force the scratcher body upwardly. The wires will remain substantially stationary until they pass their center of flexure, and then rather [3467] easily the wires will progress the casing, that is, the sleeve of the scratcher around on the simulated casing.

Mr. L. E. Lyon: I think, Mr. Doble, you had better have the first part of that last statement of yours read, because I think you said "upper" when you meant "lower." I am referring to the rings.

The Witness: Would you read that, please, Mr. Reporter?

Mr. L. E. Lyon: Where you started to move the

(Testimony of William A. Doble.)

scratcher up, you said the upper ring engaged the scratcher.

The Witness: Maybe we can have the testimony corrected to read, "that when the lower stop ring 20 engages the bottom of the sleeve portion of the scratcher and the upward movement of the square operating rod continues, then the scratcher will move upwardly."

Q. There is, is there not, Mr. Doble, in this as well as in the operation of these scratchers in a well a point where the casing will move through the scratcher and the scratcher will stay stationary?

A. Yes, sir; that is correct.

Q. And that is on both points of reversal?

A. Yes, sir.

Q. And that is what you are pointing out now?

A. Yes, sir.

The Court: Then the distance between the two lugs in a real oil well, the distance between those two rings on [3468] your model here, determines when they will bend?

The Witness: Yes, your Honor, in relation to the start of the upward movement or downward movement of the pipe.

The Court: Yes.

The Witness: Yes, the distance left between.

The Court: I would say it this way: determines how long the scratcher will remain at one position?

The Witness: Yes, sir; that is correct.

The Court: Is there any reason to assign any particular distance?

(Testimony of William A. Doble.)

The Witness: Yes, your Honor, there is. That distance is determined by the amount of length necessary in order to lift the casing so that the slips up on the rotary table can be freed. They have to hold the casing in order to put a new length of casing, attach new lengths of casing to that which has already gone into the well. So in order to do that, they have to relieve the casing that has already gone down into the well from the elevators of the tower, and then the casing would be free to drop to the bottom of the well if something did not hold it there; and to provide that it is held, the rotary table is provided with slips which hold it.

But after the next length of casing has been added to that which is already extending down into the well, then that string of casing must be lifted a short distance to lift the [3469] tapered wedges, to free the tapered wedges so they can be pulled out and then the entire string lowered down for the length of that additional casing, and then the operation is repeated.

The Court: So that stationing of the lugs on the casing must accommodate that operation, is that it?

The Witness: That is the only purpose, your Honor, except to give freedom of rotation. If it were not for that space required for releasing the slips, the two stop rings could be positioned closely adjacent each side of the scratcher [3470] sleeve.

(Testimony of William A. Doble.)

A. I am referring now to Defendants' Exhibit NNNN-15, and I will call attention to the scratcher which is mounted upon the simulated cylinder 18. The scratcher in this case is a wall-cleaning guide of the Jones type such as shown in Figure 26 of Defendants' Exhibit X.

Q. And like the models on Exhibit EM-1 over there, the pipe, Mr. Doble?

A. Like them but—yes, I guess they are very similar to the scratchers on Exhibit—

Q. EM-1 is the pipe? A. —EM-1.

Q. And the two scratchers that I referred to that are on that exhibit are Exhibits IIII and EC, respectively? A. That is correct, sir.

That scratcher which I have just referred to was run into the cylinder, down to the bottom of this cylinder, then moved up to the upper end of the cylinder without permitting the wires to leave the cylinder. That operation was carried [3471] on for several reciprocations, that is, up and down movement of the scratcher in the cylinder. In doing so the action of the wires during their travel through the cylinder either upwardly or downwardly was observed; also the action of the wires at the lower reversal point as well as at the upper reversal point, and at each of the reversal points it was observed that the sleeve or body portion of the scratcher rotated a small amount. And I would—

Q. Now, Mr. Doble, right there—pardon me for interrupting you—was a tracing made or a pattern

(Testimony of William A. Doble.)

made of the path made by the wires which you have just now described?

A. Yes, Mr. Lyon, at a later date, but not at the time that the tests which I am referring to were run.

Q. You say the pattern was made at a later date?

A. Yes, sir; and with a different cylinder than is shown in Defendants' Exhibit NNNN-15.

Q. Just so this might be correlated, let us take up the second test that was made, then, if there was a second, or a third, whichever it was of this Jones and Berdine type of scratcher and its pattern, if one was made, so we will get them all together.

A. In order—may I finish my last?

Q. Yes, you may. Pardon me.

A. I had not quite finished when you interrupted me. [3472]

My observation of the fingers during the travel down through the cylinder or upwardly through the cylinder was that the wires traveled in a straight path between the reversal points; that is, the path was, as near as one could observe in the structure set up as in Defendants' Exhibit NNNN-15, the wires traveled straight down to the stopping point in the cylinder, then during the reversal the sleeve or body portion of the scratcher progressed around the simulated casing, and from that point the wires traveled straight upwardly within the bore of the cylinder until the upper reversal point was reached.

(Testimony of William A. Doble.)

Now in order to demonstrate that I directed that a cylinder be made which could be separated into two halves. Such a cylinder was made of steel and the cylinder 24, as shown in Defendants' Exhibit NNNN-15, was removed from the machine and the new cylinder which was made in two halves, the internal bore of which was ground so it was absolutely smooth and that bore was coated with showcase or show card paint, which is black and is very soft, and that cylinder was mounted on the test stand and a scratcher similar to the scratcher which is shown in Defendants' Exhibit NNNN-15, was placed in the machine in the same manner as shown in this exhibit and was progressed down into the cylinder, and then up to the upper extremity of the cylinder, and then down into the cylinder and then up and out of the cylinder, making [3473] two complete cycles of operation—two downstrokes and two upstrokes—before withdrawing the scratcher from the cylinder.

And in that respect I will refer now to Defendants' Exhibit NNNN-27.

Does your Honor have a copy of it? Is it in your book?

The Court: It is.

The Witness: Thank you.

The Court: It has just been inserted.

A. Defendants' Exhibit NNNN-27 is a photograph illustrating one-half of the cylinder structure like the cylinder 24, and in the photograph may be observed the upper horizontal flange, the down-

(Testimony of William A. Doble.)

wardly extending tube or casing, together with side flanges which have a series of holes at the side of the bore portion of the cylinder; and those holes were for the purpose of bolting the two halves together, with taper pin holes provided so that the two halves could be brought into exact register.

As I say, the inner surface of the cylinder, Defendants' Exhibit NNNN-27, was coated with a show card paint on the inner surface.

As before, the scratcher was moved down to the lower end of the cylinder, up to the approximately upper end of the cylinder, down to the bottom of the cylinder again, and then up and out. We could have continued making more [3474] strokes but I was afraid to do so would only confuse the number of lines which the free ends of the wires scribed by scratching off the black paint from the metal surface of the cylinder. [3475]

The cylinder was taken apart and was photographed, and photograph Defendants' Exhibit NNNN-27 is one of the photographs produced of that test.

And you will notice on the upper flange, right-hand flange, there is a letter "J." I placed that on the flange of the half so that I could identify the half-cylinder as that cylinder in which the wall-cleaning guide of the Jones type was operated.

Q. Now, Mr. Doble, what is the significance of any of the saw teeth at the bottom of Exhibit NNNN-27, scribed lines?

A. It indicates or illustrates the rotation of the

(Testimony of William A. Doble.)

sleeve portion of the scratcher with relation to the simulated casing during the reversal point at the lower end of the stroke of the scratcher, into the cylinder.

Q. How does it so illustrate that rotation?

A. By the manner in which the free ends of the wires have scribed a new line which starts from the lower end of the vertical line and swings to the left and then progresses upwardly to the upper end of the cylinder in again an approximately straight line.

Q. What is the significance, if any, of the distance between the two lines that you have just described?

A. Those indicate the amounts of rotation of the sleeve of the scratcher body. [3476]

Q. Now, how, Mr. Doble, in your opinion, does the tracing of Exhibit NNNN-27 compare, if at all, with Figure 27 of the Jones and Berdine Exhibit X report?

A. They are strikingly similiar.

Q. Will you just point out what you mean by "strikingly similiar," and I will place the Jones and Berdine report before you? Where is Exhibit X and where is the Jones and Berdine report?

Under Figure 27 of Jones and Berdine, I believe there is an enlargement of a fragment of that photograph, too. What was that enlargement?

Well, just use that now, Mr. Doble.

A. I have before me Defendants' Exhibit X, which is a copy or is the Jones report, and I have

(Testimony of William A. Doble.)

turned to Figure 27 of Defendants' Exhibit X and will call attention to the cylinder, cast from the cylinder, to which the letter "A" by means of a lead line is directed. And it will be observed in Figure 27 the up and down striations formed in the cast billet, which correspond very, very closely to the up and down scribed lines in Defendants' Exhibit NNNN-27.

Also, at the lower end of the cast billet, as illustrated in Figure 27, there are progressions or diversions of the serrations, indicating a rotation of the scratcher collar about the simulated casing in the well bore.

Mr. L. E. Lyon: Mr. Doble, pardon me, I do not like to [3477] interrupt you, but if I may state, I see that Exhibit J in the Patent Office, which is a photographic reproduction of Figure 27 of Exhibit X and which was marked by Mr. Barkis during the taking of his deposition which has been copied into the record, was not offered and marked, and which is a photographic reproduction of the figure you are referring to, and I would like to ask that that photograph be marked Exhibit NNNN-28.

The Court: It will be so marked.

(The photograph referred to was marked Defendants' Exhibit NNNN-28 for identification.)

Mr. Scofield: No objection.

The Witness As I was pointing out, the jagged or offset lines as they appear at the bottom end of

(Testimony of William A. Doble.)

Figure 27 of Defendants' Exhibit X very closely correspond to the tracing made by the ends of the wires in Exhibit NNNN-27 either at the lower end or at the upper end of the stroke, where reversal took place, in each case indicating clearly there was rotation of the scratcher collar or body portion with relation to either the well casing or simulated well casing.

Q. (By Mr. L. E. Lyon): All right. Now, I interrupted you to bring you back to this particular exhibit, Figure 27 in your previous answer of the description of the tests that you made. Will you go back to where I interrupted you, Mr. [3478] Doble?

A. Yes, sir.

After the tests were run on the structure as set up in Defendants' Exhibit NNNN-15, the scratcher 22 was removed, and a second scratcher, or a different scratcher, was mounted upon the simulated casing.

Q. You are referring back now to the first tests that you ran?

A. Yes, Mr. Lyon.

Q. And let us get them named. Those were the tests that were run in Mr. Wright's back yard, were they not?

A. Yes, sir, on September 27, 1952.

Q. All right.

A. I will turn next to Defendants' Exhibit NNNN-19. In this exhibit there has been placed on the simulated casing a scratcher of the wall-cleaning guide. The wall-cleaning guide in this setup was mounted in the same manner as was the wall-

(Testimony of William A. Doble.)

cleaning guide of the Jones type of Defendants' Exhibit NNNN-15.

Q. Now, Mr. Doble, you used the wording "wall-cleaning guide." You differentiate between the Jones scratcher and the wall-cleaning guide in what respect?

A. Only in the manner in which the outer ends of the wires are bent.

Q. And in the wall-cleaning guide they are bent in [3479] which direction?

A. The ends of the wall-cleaning guide, as shown in Exhibit NNNN-19, the extreme ends of the wires, that is, the free ends of the wires, are bent upwardly, curved upwardly; whereas, in the wall-cleaning guide of the Jones type shown in Defendants Exhibit NNNN-15, the wires extend out and their free ends are not bent upwardly.

Q. Which way are they bent, sidewise?

A. They are bent sidewise.

Q. Proceed.

A. The scratcher as mounted on Defendants' Exhibit NNNN-19 was progressed through the cylinder for a number of strokes. The operation of the wires was observed.

The rotation of the body portion of the scratcher was observed, the section of the wires scratching the cylinder, and their travel up and down the cylinder and at the reversal points was observed.

And then the scratcher was removed from the simulated casing in the manner previously described.

(Testimony of William A. Doble.)

In this operation it was observed that the wires operated exactly in the same way as they did when the scratcher shown in Defendants' Exhibit NNNN-15 operated; namely, during the downstroke the free ends of the wires scratched a straight line down the internal bore of the cylinder; at the reversal point the wires stood still during [3480] the initial movement of the scratcher body upwardly; rotation of the scratcher body or collar was observed during the reversal, and then the wires progressed upwardly in a substantially straight line to the upper reversal point, at which time, when the upper reversal took place, there was an additional forward movement or rotation of the scratcher body around the simulated well casing.

I might say that the scratcher body always rotated in the same direction.

Q. Mr. Doble, is there a mechanical principle which governs this rotation?

A. Yes, sir, there is.

Q. Will you just explain that, using what exhibits or what devices that you want to explain precisely the mechanical principle that governs this rotation of these scratchers in these operations?

A. Well, I have been trying to visualize how I could best explain that, and in order to explain it to myself I made a little rough sketch.

Q. All right.

A. I have it here. In fact, I drew it this morning. Would you care to have it?

(Testimony of William A. Doble.)

Mr. L. E. Lyon: I would like to have it marked for identification, if you are going to use it, Mr. Doble, as the defendants' exhibit next in order. [3481]

The Court: It will be so marked.

Mr. R. F. Lyon: GD.

Mr. L. E. Lyon: GD.

(The sketch referred to was marked Defendants' Exhibit GD for identification.)

Q. (By Mr. L. E. Lyon): All right. You have marked it, and we will get the clerk to mark it later.

A. I have marked it in pencil.

Mr. Scofield: Could I take a look at it?

Mr. L. E. Lyon: Would you like to look at it?

Mr. Scofield: Yes.

Mr. L. E. Lyon: Pardon me.

Q. Do you want that other model?

A. Not yet.

Q. Ok.

A. I have before me Defendants' Exhibit GD. The exhibit is a sketch which I have made, which includes a circle which I will mark with the letter "a," small "a"—all my letters will be small—which represents, or which I have drawn to represent, the outer peripheral surface of a scratcher such as the wall-cleaning guide.

I have drawn a wire whisker or finger, I will designate with the letter "b." That finger, I have drawn it only as extending a short distance around the circle "a" to indicate that the finger or wire

(Testimony of William A. Doble.)

“b” does extend around the surface of [3482] the casing body.

Then, at the point “c,” the wire finger leaves the periphery of the circle “a” and extends outwardly along a substantial radial line.

Maybe I better indicate the radial line of the finger. (Witness marks on exhibit.) And I will draw the radial line with broken dashes. And I have purposely drawn that finger, at least I have tried to draw it, as a true radius along the line which I will now designate “d.” [3483]

Mr. Scofield: Is it a dotted line?

A. It is a broken line.

Mr. Scofield: Is that d?

A. That is d, Mr. Scofield.

I have also drawn a wire finger which I will now designate by the letter e and the wire finger which I have designated with the letter e I have drawn in ink, that is, in blue ink, it appears black here but it is blue or black, which extends from the point at which the radius of finger b leaves the circle a and extends up to the end of the finger b at a point which I will mark f. Now I have drawn in red a parallelogram of forces which is used in mechanics to break up any force which is applied in a diagonal direction to its resultant forces.

Now, we will assume that there is a force g which I have indicated by a small red arrow pressing against the very end portion of the finger b, and endeavoring to push the finger toward the center of the circle a.

(Testimony of William A. Doble.)

That force g will then be resolved into two forces, one force which I will designate by the letter h and the other force which I will designate by the letter i.

Now, the force h is tending to force the structure toward the center of the circle a; whereas the force i is tangent to the circle a at c and is the force which causes or tends to cause rotation of the collar sleeve about the [3484] casing.

Now, if we took finger e or wire e and extended it from the point c to the point f exactly the same diagram of forces would apply, that is if you applied a force g now to the wire e instead of the wire b, the resultant forces would be identical to the red force h and the red force i.

The Court: They are resolved into two sides of a right-angled triangle, are they not?

The Witness: That is correct, your Honor, and that is what I have depicted on Defendants' Exhibit GD.

Q. (By Mr. L. E. Lyon): Now, one of those forces tends to—does one of those forces that you have drawn tend to have any effect with reference to the rotation of the scratcher collar? A. Yes, sir.

Q. Which one is that? A. The force i.

Q. Now, Mr. Doble, you have made a comparison of two different wires extending in two different directions. I will place before you Exhibit NNNN-22 and I will ask you to explain that exhibit. I believe there is one of those in the court's file.

(Testimony of William A. Doble.)

The Court: Do those forces operate the same way on the rough sides of a well?

The Witness: Yes, your Honor, because the force is [3485] applied to the finger. I believe I could illustrate that.

The Court: I don't think you need to take the time to illustrate it.

The Witness: I could illustrate it with my pencil, your Honor.

The Court: In these tests, are you applying what you deem to be the extreme resistance to the movement of these fingers or bristles or wires up and down the well?

The Witness: No, your Honor. We are trying to demonstrate the action of the wires as they operate up and down.

The Court: You are demonstrating them in action on a smooth surface?

The Witness: Yes, your Honor.

The Court: I take it that the interior of a well is anything but a smooth surface.

The Witness: Yes, your Honor. I will have to agree with that.

The Court: So, do you make any allowance for that, or is your room for accommodation in the cylinders such that you are applying the extreme impediment to the movement of the wires, to the movement of the scratcher up and down the walls of the well that would be applied under any circumstances in a real well?

The Witness: Yes, I would like to explain that

(Testimony of William A. Doble.)

in this way, your Honor, so that you will appreciate what we are trying [3486] to do:

In order that we may get a true comparison between the several different types of scratchers, we must have a standard condition to apply to all of them, and the only standard condition we could get, that we knew of, or at least that I knew of at the time, was a steel cylinder which was ground on the inside, and they were all applied to that same single cylinder, so that there couldn't be any difference in the condition.

The Court: I misconceived your purpose. You weren't attempting to simulate conditions that would be met in a well itself but were merely attempting to compare different scratchers?

The Witness: Yes, your Honor. Of course, the conditions may be somewhat different in a well, that I will agree with you, but they do give you an idea of how they would operate in a well, and we have tried some scratchers in a concrete block with a hole bored in it so they would have the roughened surface more comparable to what we would get in the well, and as far as I could observe the operation was still identical.

The Court: At any rate, your purpose here was to compare different models and types?

The Witness: Yes, correct.

The Court: Under substantially identical conditions? [3487]

The Witness: Just as nearly as we could make

(Testimony of William A. Doble.)

them, so that there could be no question but what we were giving each one a fair test to show its operating character.

Q. (By Mr. L. E. Lyon): Mr. Doble, you have just analyzed one wire of the scratcher. Now, how many wires are on the scratcher of the Jones and Berdine type of scratcher, figure 36 scratcher?

A. There are 30 wires, so the force i would be multiplied 30 times, that is, you would have 30 times the force i continuing to rotate the body of the wires of the scratcher around the casing.

The Court: Are they each operating in the same direction?

The Witness: They are each operating tangential.

The Court: I understand, but some of them might be operating clockwise and others counter-clockwise.

The Witness: No. They would be all operating in the same direction, because the effect of angulation or inclination is all the same, it is the same all the way around.

Mr. Scofield: The inclination of what?

The Witness: The wire in relation to the collar.

Mr. Scofield: What collar?

The Witness: The collar of the scratcher body.

Mr. Scofield: But if there is no inclination, if they are all radial—— [3488]

The Witness: Well, they aren't radial. We haven't any that are radial.

The Court: I was thinking of the possibility of

(Testimony of William A. Doble.)

one wire getting in a hole, in some indentation in the hole of the well that might push it in the opposite direction from the others.

The Witness: I don't see how it could do that, get in the hole and not work because it would then engage the wall and be pressing against the wall. Those wires are in motion with a distance between the surface of the scratcher body and the diameter of the well, so as you press down a wire, another has to bend because you are going to shorten the distance and the wire has to bend or it has to move the body of the scratcher around. You probably would get a combination of both.

The Court: Would you say that the rotation is in the same direction because the force of the movement is straight and even in each instance and that one wire, if it met with some obstacle different from the others, might exert less force or greater force?

The Witness: Yes.

The Court: But whatever force would be exerted toward rotation would be in the same direction.

The Witness: That is correct, your Honor, but I think that we should appreciate that the wires of the scratcher do [3489] not extend completely radial from the wall of the scratcher to the wall of the well. They are inclined both upwardly and forwardly. In other words, we have the cylinder which I have now in my hand, which is Exhibit CE-2, and the wire extends substantially in a direction like that (indicating), because it won't fit this way,

(Testimony of William A. Doble.)

because the diameter of a hole is smaller than the length of the wire and therefore it has to be pushed upwardly and in being pushed upwardly it will take the least resistance and move forwardly along the hole of the well bore. That is clearly observed in—I think we have one of the models here that shows the scratcher in the——

The Court: Yes, I have a mental picture of that.

Q. (By Mr. L. E. Lyon): Mr. Doble, what is the significance of this rotation, anyway?

A. Personally, I don't think it amounts to any significance, material significance, in this regard: If we take a scratcher such as I have in my hand, which is Defendant's Exhibit CG, we can fasten that to the casing by welding, and in plaintiff's catalogs they say that they can, their scratchers can be welded to the casing. So it is welded solid. They cannot move in relation to it. In that case you could reciprocate and mechanically rotate the scratcher at the same time and clean the wall during that rotation and reciprocation. [3490]

Now, it is simpler, however, if we mount the scratcher so it will rotate by itself on the casing. In that case, it is only necessary to reciprocate the casing up and down and due to the action of the wires on the wall, they will cause the rotation of the body portion of the scratcher to progress around the well wall.

Now, the importance of that is this: The distance between the ends of the scratchers would leave a wall of mud, and in order to remove that wall of

(Testimony of William A. Doble.)

mud, which would represent the distance between the upper ends of the wires and the well wall, you have to move it just a little bit, you don't have to move it very much, in fact it is better that you do not move it too much, because you have to progressively remove the mud or the filter cake, mud cake, as you reciprocate up and down, so it is merely a matter of convenience.

The Court: It may add something to the efficiency of the device?

The Witness: I think that is a matter of how you rotate it and how you reciprocate it. It is more convenient, I will say that, but the final result will be the same.

Q. (By Mr. L. E. Lyon): What you are trying to do, taking an expression which has heretofore been used, is to get those wires to hunt?

A. That is correct, hunt and find and get a new location [3491] like we see on the——

Q. Exhibit NNNN-27 I believe is what you are looking for.

A. I have lost it. The scribes of the lines on the wall of the well.

Q. Exhibit NNNN-27.

A. ——which is Exhibit NNNN-27 which showed the new path scribed by the wires at each reciprocation so it gradually went around and scraped off all the mud, and that is all you have, there is nothing mysterious or miraculous about it. It is just a very plain and simple expedient. It is a character-

(Testimony of William A. Doble.)

istic of all the scratchers I have ever run, and I have operated a great many of them. I have never found one that did not rotate on the casing when it was reciprocated up and down and at the reversal point.

Q. And that shifting or hunting of the wires is illustrated by the movement, the changing of the path of the wire in different strokes as shown in Exhibit NNNN-27, is that correct, Mr. Doble?

A. That is correct. [3492]

Q. Now, proceed, Mr. Doble. Let me ask you this: You had just described NNNN-19, using what you defined as a wall-cleaning guide. Did you subsequently make a cylinder tracing of that type scratcher, similar to NNNN-27 photograph that we just referred to? A. Yes, sir.

Q. Well, where is that?

A. I have before me Defendants' Exhibit NNNN-23-A and -23-B. No. Excuse me. I have got the wrong one. I have the one for the wall-cleaning guide.

Q. That was the one marked "2," was it not, Mr. Doble, corresponding with the exhibit that was numbered—"W" was the Weatherford?

A. That is correct; "W" was Weatherford.

Q. Was No. NNNN-21-B?

A. Yes, sir; that cylinder which is shown in NNNN-21-B. I don't seem to have NNNN-21-A in front of me at the moment. Maybe I have.

Q. Was there two of them?

A. Yes, I have it now.

(Testimony of William A. Doble.)

Q. You have them both? A. Yes, sir.

Q. Okay.

A. I have before me now photographs which are Defendants' Exhibits NNNN-21-A and -21-B. The cylinder [3493] illustrated in these two exhibits is a larger cylinder which had an internal diameter of $9\frac{7}{8}$ inches, and was for the purpose of testing the large size wall-cleaning guide. And in the same way I had the large cylinder prepared which could be divided into two halves, was made of steel, was bolted together and was held in perfect alignment by taper pins. The internal diameter was ground so it would be as smooth as possible. The interior surface was coated with a black coat of show card paint, which is very soft and easily scratchable on the surface.

We mounted the wall-cleaning guide on the test machine as shown in Defendants' Exhibit NNNN—

Q. 20, I believe.

A. I can't make out what this is.

Mr. R. F. Lyon: NNNN-20.

The Witness: It looks like it may be 18.

Mr. L. E. Lyon: NNNN-20, wasn't it?

A. Well, NNNN-20 also shows it. NNNN-20. In this case it was necessary to remove the simulated casing 18 as shown in Defendants' Exhibit NNNN-19 and place on the reciprocating square rod a larger simulated casing.

Q. Or collar—oh, casing. Pardon me.

A. Casing to simulate a $5\frac{1}{2}$ -inch casing. And

(Testimony of William A. Doble.)

on that simulated casing, in the same way, we mounted a wall-cleaning guide, as is clearly illustrated in Defendants' [3494] Exhibit NNNN-20.

Q. How did that wall-cleaning guide compare with Exhibit 104, Mr. Doble? I will place Exhibit 104 before you so you will know what I am talking about.

A. It was as close as normally any of these scratchers are made. It was very close, if not the same scratcher.

I might also point out, and it can be seen in this figure clearly, that the upper stop collar 21 is graduated around its lower periphery or calibrated so that by making a mark on the body of the scratcher and aligning that mark with the zero calibration on the upper stop ring the rotation of the collar during the reciprocation could be measured directly in inches.

I might say that was done on all of these tests.

In the same way, the scratcher which is the wall-cleaning guide of Defendants' Exhibit NNNN-20 was reciprocated in the cylinders as shown in Defendants' Exhibit NNNN-21-A and NNNN-21-B, and the lines indicated on the internal diameter or internal bore of the cylinders is scratched and the scratch lines were photographed as they appear on the two exhibits.

Q. Mr. Doble, how does what you have referred to in these tests as being the cylinders upon which these lines were scribed correspond with the pipe required in a test procedure set up in the Hall ap-

(Testimony of William A. Doble.)

plication, for example, [3495] Exhibit 69, on page 8, as you have previously read it?

A. I would say they were to the greater extent the same, but we provided a protection which they did not provide. There was no way of preventing rotation of the scratcher or casing by hand as it was shoved through the simulated well bore by hand, whereas in our test apparatus we not only provided a smooth bore which was identical for all of the scratchers, but we provided a mechanism by which the person moving the scratcher through the bore could not cause it to rotate in any way.

Q. In the application procedure it says that you mount the scratcher on a pipe. What corresponds with a pipe in your test apparatus?

A. Simulated casing 18.

Q. It says to reciprocate the pipe with the scratcher on it in a pipe of larger diameter. Which is the pipe of larger diameter in your test apparatus? A. The casing 24.

Q. You have described the only perceptible difference that you know between the two test operations, Mr. Doble; that is, that you prevented your casing from rotating and there is nothing said in their requirements about preventing the casing from rotating; is that correct?

A. That is correct, sir.

The Court: In whose requirements? [3496]

Mr. L. E. Lyon: In Mr. Hall's of the Hall application. I mean this test procedure, your Honor.

The Court: Referring to what exhibit?

(Testimony of William A. Doble.)

Mr. L. E. Lyon: 69 and Exhibit 4 and Exhibit K.

Now, Mr. Doble, have you finished—no, I don't believe you finished your exposition of Exhibits 21-A and 21-B. I notice with respect to these particular photographs that there are certain marks indicating a start up and out written on Exhibit 21-A. So that this record will be clear, will you explain what was meant by that "start"?

Mr. Scofield: Is this NNNN-21-A?

Mr. L. E. Lyon: And "up and out"? 21-A.

Mr. Scofield: Is it NNNN-21-A?

Mr. L. E. Lyon: Yes.

The Court: 21-B, is it not, Mr. Lyon?

Mr. L. E. Lyon: I may have them reversed and marked here. I will have to ask your Honor.

The Court: According to the exhibit here——

Mr. L. E. Lyon: That may be the right one.

The Court: ——that is 21-B.

Mr. L. E. Lyon: All right. I have mine marked backwards, then. I will see that the witness has his marked correctly, too.

The Witness: The exhibits I have are not marked.

Mr. L. E. Lyon: Well, I will give you one that is. That [3497] is the one that corresponds.

A. The exhibit which you have handed to me,

Mr. Lyon, has the following words written on it, and I will read from the top, from left to right. The first title, we might call it, is "dash-dot line." And there is a lead line leading from that title

(Testimony of William A. Doble.)

down to one of the lines scribed by one of the wires as it progressed down through the cylinder bore; and that particular wire sort of scribed in its passage down and made what might be called a dash line. Some of the other wires at times operated similarly, making shorter dashes, so they are more like dots. Just why the wire did that I am not too sure. However, the major portion of the wires are clearly scribed as full lines throughout their entire extent or the greater portion of their extent.

The next title is the word "start" with a lead line indicating to the point at which that particular wire, or the free end of the one wire entered the bore of the cylinder.

The next title is "upper end" and from that title there is a lead line down to the reversal point of one of the lines scribed in the cylinder.

The next title is the word "out" with a lead line to the point at which the scribed line leaves the bore of the cylinder, indicating that that is the point where the free end of the wire left the cylinder bore.

The next title is "dot-dash line" and is provided with [3498] a lead line down to a line scribed in the cylinder, a portion of which is dashed and dotted-like, similar to the dash line which I previously pointed out, excepting the dashes are shorter and there are more dots in that line.

Q. All right. You have explained Exhibit——

A. I haven't finished the bottom titles, Mr. Lyon.

Q. Oh, pardon me.

(Testimony of William A. Doble.)

A. Now reading from left to right the bottom titles on Defendants' Exhibit NNNN-21-B, I find the title "bottom" and a lead line indicating to the bottom of one of the straight lines and the loop portion extending to the right from the bottom point of that particular line.

The next title indicates "start up" I guess it is. It is my own writing. I think that the pen did not continue.

Q. Maybe the one that is in evidence you can read better.

The Witness: Is it "up"?

The Court: "Start up."

The Witness: "Start up."

The Court: I take it from the lead line it indicates that the line which reached the point you have marked "bottom" starts its upward journey from the point you have marked "start up."

The Witness: Yes, that is correct, your Honor.

And the next title is "bottom 2" and the lead line [3499] from that title leads to and indicates the bottom of the stroke of a second one of the wires of the scratcher.

Q. (By Mr. L. E. Lyon): These tests that we attended in the back yard of Mr. Wright's home, you tested some further scratchers, did you not?

A. Yes, sir.

Q. All at the same time? A. Yes, sir.

Q. What was the next scratcher that was tested?

Mr. Scofield: Can it be stipulated that the plaintiff was not represented at any of these tests?

(Testimony of William A. Doble.)

Mr. L. E. Lyon: The plaintiff was not there; that is correct.

A. The next test that we made was to place a 3½-inch Weatherford type of scratcher on the test machine in the same manner in which we placed the 3½-inch scratcher of the Jones type as shown in Defendants' Exhibit NNNN-15.

The Court: Which Exhibit shows the Weatherford scratcher so mounted, NNNN-17?

The Witness: I haven't found it yet, your Honor. I am looking. I don't have a photograph of it.

The Court: Is that it, 17?

The Witness: No, your Honor. That is a Nu-Coil. But it was mounted on the test structure in the same way that the Jones type of scratcher was mounted in Defendants' Exhibit [3500] NNNN-15.

Q. (By Mr. L. E. Lyon): NNNN-16, Mr. Doble, doesn't that show the scratcher that actually—no, that is a Nu-Coil. Proceed. Pardon me for interrupting you, Mr. Doble.

A. Well, as I was stating, a Weatherford scratcher which had been bought on the open market and had the wires cut to the proper length—I believe the wires on the scratcher were five-inch in length and they would not fit in a 6⅞ cylinder, so they were cut to the proper length—and that scratcher was mounted on the test machine in the same manner as the Jones type of scratcher was mounted in Defendants' Exhibit NNNN-15. In

(Testimony of William A. Doble.)

place of cylinder 24 as shown in Defendants' Exhibit NNNN-15, the same 6 $\frac{7}{8}$ -inch cylinder which was used to make the test of the Jones-type scratcher was employed. Before employing that cylinder for this test the internal bore was polished out, repainted, and was bolted together with the taper pins so as to be in perfect alignment.

The scratcher was free to rotate and free to reciprocate between the two collars and was rotated down, up, down, up and out of the cylinder bore, and the tracing formed by the free ends of the wires is clearly shown in the photograph Defendants' Exhibit NNNN-24-B.

NNNN-24-B shows the manner in which the free ends of the wires moved sidewise at the reversal points, indicating [3501] rotation of the scratcher collar during the reversal of the scratcher from a down to an upstroke or from an up to a downstroke.

And I might call attention to the similarity between the scribed marks——

I lost the one with the "J" on it, Mr. Lyon.

Mr. L. E. Lyon: If you are on "J" you are lost.

The Witness: I am lost. Well, I can compare it.

The Court: The one with the "J" on it is NNNN——

Mr. L. E. Lyon: 27.

The Court: 27.

A. Yes. I would like to call attention to the similarity between the lines scribed on NNNN-27 and NNNN-24-B.

Q. (By Mr. L. E. Lyon): Is there indicated any

(Testimony of William A. Doble.)

difference in magnitude of rotation by these scribed lines, Mr. Doble?

A. Yes, there is, I believe, a slightly greater rotation of the collar of the Weatherford scratcher; and that is in conformance with my observation. I watched the action of the wires during all of these tests and, as I remember it, the Weatherford type of scratcher did rotate a very little greater at each rotation than did the wall-cleaning guide.

The Court: You could observe that with your eyes?

The Witness: Well, we had a calibrated scale on the [3502] sleeve so we could actually measure the rotation.

Q. (By Mr. L. E. Lyon): Does that make any difference in actual operation, Mr. Doble?

A. No, sir; it does not.

Q. Why?

A. Because the wires continuously hunt, as you call it, or move around the bore so that all of the surface of the bore is scraped clean during the conditioning of the well for either producing or cementing.

Q. Mr. Doble, the particular scratcher that was used in this third test, that is, the Weatherford scratcher, is illustrated by one of the photographs, I believe Exhibit NNNN-25, is it not?

A. Yes, it is.

Q. And I hand you Exhibit NNNN-25.

A. Yes.

(Testimony of William A. Doble.)

Q. That is the particular scratcher that was used in the tests that you have last recounted?

A. Yes, sir.

The Court: That is the Weatherford scratcher?

Mr. L. E. Lyon: Yes.

The Witness: A Weatherford scratcher, your Honor, and this Exhibit NNNN-25, that is the scratcher used in the tests which I have last described.

Q. (By Mr. L. E. Lyon): Mr. Doble, you conducted further [3503] tests with other scratchers that same day at Mr. Wright's back yard. What were they?

A. We tested the Nu-Coil scratcher. And I do not see a Nu-Coil of the 3½-inch size mounted on the test machine. But in Figure NNNN-17 there is a Nu-Coil scratcher of a 5½-inch size mounted on a simulated casing in the test machine, in which case, also, the cylinder 24 has been removed and a larger diameter cylinder placed on the test machine.

Q. We tested both sizes that afternoon, didn't we, Mr. Doble?

A. Yes, sir; we did. However, I did at a later date run a test on a Nu-Coil scratcher of the 3½-inch size so as to make a cylinder which we could photograph the interior of to find out and observe the character of lines which would be scribed by that form of scratcher. And I would call attention to defendants' exhibit NNNN-23-B.

The Court: And 23-A?

The Witness: And 23-A, your Honor, yes.

(Testimony of William A. Doble.)

Q. (By Mr. L. E. Lyon): Isn't the smaller size shown in NNNN-16, Mr. Doble, and the 5½-inch size in NNNN-17? At least our list says so.

A. Well, it may be so, Mr. Lyon, but I don't have NNNN-16 before me.

Well, that is the scratcher, your Honor, that we used, but that is not mounted on the test [3504] machine.

Q. I see. It is outside of the test machine?

A. Yes, sir.

The Court: You are referring to the last exhibit, NNNN-16, is that it?

The Witness: Well, that is the scratcher that was mounted.

The Court: I am merely asking for the record so the record will show.

Mr. L. E. Lyon: Yes.

The Witness: Yes, that is the scratcher that was mounted on the test machine in the same manner that the Jones-type scratcher was mounted as shown in Figure NNNN-11.

Mr. Scofield: If your Honor please, pardon me for interrupting. But this scratcher that was marked this morning, this EJ, is the scratcher that was supposed to correspond to this NNNN-25 in your book; and it was the scratcher about which I made the statement with regard to the wires and the manner——

The Court: I don't know. Are you offering a stipulation?

Mr. Scofield: I am now just calling the court's

(Testimony of William A. Doble.)

attention to the fact that this scratcher that went in this morning as EJ is supposed to correspond to, according to Mr. Lyon's statement when the scratcher was offered, as the same as the scratcher which is shown in NNNN-25.

The Court: Is it so stipulated? [3505]

Mr. L. E. Lyon: That is what I stated, yes, your Honor.

The Court: Then you both so stipulate?

Mr. Scofield: Yes, sir.

The Witness: May I proceed?

Mr. L. E. Lyon: All right, Mr. Doble, proceed.

A. All right. I was stating that Defendants' Exhibit NNNN-25 was mounted in the test machine in the same manner as the Jones-type scratcher was mounted in Defendants' Exhibit NNNN-11.

The same cylinder which was used in the test of the Weatherford scratcher and the Jones-type, that is, the cylinder which was made in two halves, was again bolted together and held in perfect alignment with taper pins. The interior bore was polished and was recoated with show case paint. The scratcher was run down to adjacent the bottom end of the cylinder, was lifted until the wires approached the upper end of the cylinder, then it was progressed down to the bottom of the cylinder again, and finally lifted clear of the cylinder. The cylinder was taken from the machine, the two halves were separated. The two halves were immediately photographed and they appear now as Defendants' Exhibit NNNN-23-A and -23-B. And

(Testimony of William A. Doble.)

on the photographs the scribed lines, or, that is, the lines scribed by the free ends of the wires is clearly shown, especially in Defendants' [3506] Exhibit NNN-23-B. And in this case it will be observed that the sidewise path of the free ends of the wires at both the top and bottom reversal points of the stroke extend a greater distance sidewise than in either of the two demonstrations, again showing that the collar or body portions of the scratcher rotated with relation to the simulated casing.

Q. Now, Mr. Doble, on Exhibit '23-B—and I don't know whether you have a correct one in front of you or not—there are some writings at the top and bottom of the photograph, above and below the cylinder. Do those indicate your pointing out the path of two wires moving up and down in that cylinder and going in and out?

A. Yes, sir; it does.

Q. The same designation was used by you in '23-B that was used to indicate those facts as described to the court in reference to the earlier exhibit 21-B, I believe it was? Yes, 21-B, is that right?

A. Yes, sir.

Q. Was or was not the same character of rotation observed with respect to the Nu-Coil as had previously been observed with respect to the Jones, wall-cleaning guide, and Weatherford-type of scratchers?

A. Yes, sir; that is correct.

Q. Now, you made another test, I believe, that same [3507] day of another scratcher. What was

(Testimony of William A. Doble.)

that? Or was that all that was made? I guess it was.

A. No. We made one other test with an Acme type scratcher.

Q. What do you mean by an Acme-type scratcher?

A. A scratcher which I had made, which corresponded to Exhibit, Defendants' Exhibits A and A-1, I believe—yes, A and A-1, I believe, an advertisement.

Q. That is the July 7, 1941, advertisement of the Weatherford Spring Company, is that correct?

A. That is correct. [3508]

Q. (By Mr. L. E. Lyon): Now, will you describe that test that was made? First, have you here a model corresponding, or a photograph showing that so-called Acme-type scratcher, Mr. Doble?

A. Yes, sir.

Q. Which is it? A. Both.

Q. Which are they, then?

A. I would refer first to photograph, Defendants' Exhibit NNNN-5, which is a photograph of the Acme-type of scratcher which we ran in the test to make a cylinder the internal bore of which was blackened so that we could get the trace-lines of the wires.

Q. Now, was that in this test in Mr. Wright's back yard? A. No, sir. It was not.

Q. Pardon me. I wanted to complete those observations first.

Now, following the test of the steel cylinder, state

(Testimony of William A. Doble.)

whether or not we repeated the tests in a concrete cylinder, Mr. Doble. A. Yes, sir, we did.

Q. And was that concrete cylinder illustrated by one of the exhibits here? A. Yes, sir. [3509]

Q. Which one is that?

A. That is Defendants' Exhibit NNNN-26.

Q. Now, in Exhibit NNNN-26 there is a series of spaced horizontal lines going down into the cylinder. What caused those?

A. The travel of the free ends of the scratcher wires of several different scratchers which we operated in, through, up and out of the internal bore of the cylinder as shown in Defendants' Exhibit NNNN-26.

Q. Now, in Exhibit NNNN-26, Mr. Doble, there is what appears to me, near the bottom of that concrete cylinder, a big hole. Was that hole there when we started? A. Yes, sir.

Q. Were the characteristics of that hole changed in any way by the many tests? A. No, sir.

Q. Did the presence of that hole alter or change the rotation of these scratchers in any way?

A. No, sir, it did not.

And I might say that the scratchers rotated in this cylinder at the reversal points, that is, this cylinder meaning the concrete cylinder, as illustrated in Defendants' Exhibit NNNN-26, in generally the same manner as the body portions of the scratchers rotated when we used the different cylinders, either the polished cylinders or the [3510] cylinders which we had out in Mr. Wright's back

(Testimony of William A. Doble.)

yard which were not polished but the ordinary surface of the tubing.

Mr. L. E. Lyon: At this time, your Honor, I would like to offer in evidence these photographs which have been identified and which I believe start with Exhibit NNNN-11, -12, -13, -14, -15, -16, -17, -18, -19, -20, and going through NNNN-28, in evidence as such exhibits.

* * *

The Court: You have offered here Exhibits NNNN-27 and NNNN-28?

Mr. L. E. Lyon: Yes, your Honor.

The Court: They are likewise received.

* * *

Mr. L. E. Lyon: Now, are those all the exhibits you have referred to this afternoon, Mr. Doble, that have not been received in evidence? That is all I am trying to be [3511] certain of right now, before we proceed with the next test.

What are Exhibits NNNN and NNNN-2 to -10?

Q. Now, Mr. Doble, I would like to have you at this time just take Exhibits NNNN, NNNN-2, NNNN-3, NNNN-4, NNNN-5, NNNN-6, NNNN-7, NNNN-8, NNNN-9, and NNNN-10 and describe to the court what these photographs show and describe the scratcher that is depicted in these photographs.

The Court: Gentlemen, according to the exhibit here, the clerk has marked no such exhibit as simply NNNN. The first of that series is Exhibit NNNN-1.

Mr. L. E. Lyon: Well, I will correct my record,

(Testimony of William A. Doble.)

then, your Honor, if it is NNNN-1 instead of just the simple NNNN.

Q. I will amend that question in that regard, Mr. Doble, to include the "-1" after the simple "NNNN."

The Court: Those are all dealing with the Acme scratcher?

Mr. L. E. Lyon: Yes, your Honor.

The Court: You may proceed.

The Witness: Yes, your Honor.

I have before me Defendants' Exhibit NNNN-1, and Defendants' Exhibit NNNN-1 is a photograph illustrating a 5½-inch Acme scratcher mounted in a gauge ring. The photograph is looking directly down into the cylindrical opening of the scratcher body and into the internal bore of the scratcher ring. [3512]

Q. (By Mr. L. E. Lyon): Mr. Doble, in explaining these photographs, I think it would be advisable for you to have Exhibits A and A-1 in front of you at the same time.

Will you get those exhibits? Those are the July 7, 1941, advertisement and enlargement. Have you got them there?

The Court: Is the ring such as you have referred to illustrated by Exhibit NNNN-22?

The Witness: CD-2, I think it is.

Q. (By Mr. L. E. Lyon): No. On the photograph which would be NNNN-22?

A. Oh, let me see.

(Testimony of William A. Doble.)

Q. You better look and see what the court is looking at.

A. Yes, sir.

Mr. L. E. Lyon: No, your Honor. That is a completely different one and that has not been described yet, by the way. Yes, it was.

The Witness: No.

Q. (By Mr. L. E. Lyon): You described those two different wires, of Exhibit NNNN-22; at least I started to have you do it.

A. That is correct.

Q. Let us have your description of that photograph, Exhibit NNNN-22, right now, and it is probably because it is [3513] in evidence and has not been described. My error.

A. I have before me Defendants' Exhibit NNNN-22, which is a photograph, which illustrates a cylindrical ring or collar against the bottom edge of which are placed two scratcher wires.

Each of the scratcher wires has a short upturned end at the left-hand end of the wire, and from that short upturned end there is an arcuate portion which extends along the periphery of the cylinder and then is provided with a curve and from the curved portion extends outwardly, that is, the lower wire extends outwardly at an inclination from the radius, passing through the center of the collar or sleeve.

The upper wire also has the outturned end at the left-hand end of the wire, the arcuate portion, the curved portion, and then extends outwardly, you might say, approximating a line coextensive with

(Testimony of William A. Doble.)

the radius of the cylinder, and from a point shortly spaced from the cylinder the wire then is inclined or given a sidewise inclination until the end of the wire is adjacent the end of the lower wire.

Q. Will you refer to Exhibit CB, which I have just placed in front of you, Mr. Doble, the physical exhibit, and state what that demonstrates with respect to the photograph, NNNN-22, before you?

A. Yes. The photograph, Defendants' Exhibit NNNN-22 was taken of the ring or collar, Defendants' Exhibit CB, [3514] with the two fingers placed down at the lower edge of the collar, and otherwise is of identically the same structure and condition and appearance of the respective parts in the photograph.

Q. What do the photograph, Exhibit NNNN-22, and the model, Exhibit CB, demonstrate, Mr. Doble, if anything? [3515]

A. Defendant's Exhibit CB demonstrates that a scratcher wire—I will refer to the photograph, Exhibit NNNN-22, because I can identify the wires a little more clearly—the lower wire illustrates the manner in which the free end of the scratcher wire leaves the surface or periphery of the collar or sleeve at an inclination, or that is at an angle to an extended radius of the center of the cylinder passing through the point at which the arcuate portion of the scratcher finger last engages the surface of the cylinder.

The second wire, which is the upper of the two wires, illustrates a second scratcher wire in which

(Testimony of William A. Doble.)

a portion of that scratcher wire extends radially from the surface of the cylindrical sleeve and then extends at a sidewise inclination and the end of the wire is substantially in register with the end of the lower of the two wires.

The purpose of the illustration is to show that the two wires are in effect scratcher wires which do have sidewise inclination, the effective point in the length of the free end of the wires is the point at which first the free ends of the wires engage the wall of the well bore, and the second important point is where that wire first engages the periphery of the cylinder.

Both would operate identically in the same manner, both would have the same rotative effect as illustrated in the little diagram I drew, which is Defendant's Exhibit GD. [3516]

In other words, the same diagram of forces would apply to each of the two wires which are illustrated in the showing of Defendant's Exhibit NNNN-22 and are shown or are physically placed on the cylinder of Defendant's Exhibit CB. That further illustrates that it is not important how you bend the wire between the point it leaves the periphery of the cylinder and to the point at which the free end of the wire engages the surface of the well bore. The forces, resultant forces, or the forces resolved into their two effective forces will be identical, that is the turning force and the force tending to bend the wire inwardly.

(Testimony of William A. Doble.)

The Court: Do you offer in evidence the diagram, Exhibit GD for identification?

Mr. L. E. Lyon: Yes.

* * *

The Court: Do you offer in evidence the physical exhibit, Defendant's Exhibit CB for identification?

Mr. L. E. Lyon: Yes, your Honor. [3517]

* * *

The Witness: I might point out one thing in Exhibit CB which is not given in the photograph Defendant's Exhibit NNNN-22, namely, that the ends of the two wires as shown on the photograph Defendant's Exhibit NNNN-22 appear to be somewhat separated. Whereas, in the actual structure of Defendant's Exhibit CB, the ends, the free ends of the two wires are positioned substantially one directly over the other.

Q. (By Mr. L. E. Lyon): How do these two wires of Exhibit CB and Exhibit NNNN-22 correspond with the wires actually used by the defendant in the different forms of scratchers, Mr. Doble?

A. Yes, sir.

Q. I say, how do they. A. How do they?

Q. Yes.

A. They correspond in having the out-turned end which appears in photograph Defendant's Exhibit NNNN-22. They have the same arcuate section which passes around the surface of the sleeve or cylinder and the Jones-type of scratcher has the wire which is the same, generally the same, as that

(Testimony of William A. Doble.)

of the upper of the two wires, that is the free end of the wire is formed to more or less correspond with the formation of the free end of the wire in the Jones-type of scratcher as [3518] shown in figure 26 of Defendant's Exhibit X.

Q. I see.

A. The lower of the two wires as illustrated in Defendant's Exhibit NNNN-22 corresponds, that is the free end of it corresponds generally to the inclined or sidewise inclined free end of the wire as used in the Kelly-type of wall-cleaning guide.

Q. All right, Mr. Doble. Now will you go back to Exhibits NNNN-1 to NNNN-10, inclusive, where I interrupted you?

A. I have now before me Defendant's Exhibit NNNN-1 which is a photograph illustrating the Acme-type of scratcher or wall-cleaning scratcher, as illustrated in the advertisement of the Weatherford Spring Company appearing in the Oil Weekly on July 7, 1941, and is Defendant's Exhibit A.

Q. Mr. Doble, you made, or how did it happen that the scratcher as portrayed in this photograph was made, and how was it made?

A. I was in your office. You handed the advertisement of the Weatherford Spring Company, Defendant's Exhibit A, to me and you told me to go down to the Adams-Campbell Company and have two scratchers made as closely as could be made from the specifications of the advertisement and to the illustration of the Acme-type of scratcher which

(Testimony of William A. Doble.)

appears in the upper right-hand of Defendant's Exhibit A. [3519]

You further stated that you wanted the first of the two scratchers to be of a 3½-inch type, and the second of which to be of a 5½-inch type.

Q. Did I give you any other specifications such as wire length?

A. Yes, I believe that you suggested, although I am not sure at that time, that I use a 4-inch length of bristle.

Q. Where does a 4-inch length of bristle come from? Is that specified in Exhibit A?

A. Yes, sir, it is. It is specified in the right-hand column of Exhibit A in the second paragraph, as follows:

“4-inch lengths, and design permits effective reversing action without danger of bristles being broken off or damaged. Greater length bristles can be furnished on specification.”

You did give me the further specification that you wanted the outside diameter taken over the free ends of the bristles for the 3½-inch scratcher, to be 8¼ inches in diameter.

Q. And that is determined from where?

A. That is determined from the tabulation under the word “Cost” in the left-hand column of the advertisement of the Weatherford Spring Company, Defendant's Exhibit A.

Q. And that diameter is there specified, is it not?

A. Yes, sir, and for the 5½-inch scratcher I was to [3520] make you specified that the diameter

(Testimony of William A. Doble.)

should be $10\frac{1}{4}$ inches, that is the outside diameter over the free ends of the wires.

Q. That is also found in the tabulation given in Exhibit A, is it not? A. Yes, sir.

Q. All right. Did I give you any other specifications or instructions of any kind?

A. Not that I can remember at this time, Mr. Lyon.

Q. And you went to the Adams-Campbell Company and did what?

A. I went to the Adams-Campbell Company and there talked to Mr. Stewart Kipper, gave him a copy of the advertisement, at least I placed before him a copy of the advertisement and a copy of the enlargement made of the figure which appears in the upper right-hand corner of the Weatherford Spring Company advertisement, Defendant's Exhibit A.

Q. That enlargement corresponded to Exhibit A-1, did it? A. Yes, sir.

Q. Okay.

A. I told Mr. Kipper that I would like him to make the scratcher as closely as he could to the illustration Defendant's Exhibit A-1, as well as the illustration in the upper right-hand corner of Defendant's Exhibit A, that the scratcher was to have a $3\frac{1}{2}$ -inch diameter—was to be for a $3\frac{1}{2}$ -inch [3521] diameter casing; that the free ends of the wires were to be $8\frac{1}{4}$ inches in diameter; that the bristles were to be of 15 gauge steel wire as called for in

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the specifications of the advertisement of the Weatherford Spring Company, Exhibit A.

In the paragraph starting just above the tabulation of sizes and costs, the advertisement reads:

“The bristles are made of 15-gauge spring steel, in 3- and 4-inch lengths.”

I told him the body of the scratcher was to be of 14-gauge steel as called for under the title “Construction” as appearing in Defendant’s Exhibit A; the band was to be 2½ inches wide, and I wished him to read the specifications of the advertisement carefully and in every way to follow the teaching of the specifications in the advertisement, as well as the illustration in Exhibits A and A-1. [3522]

Mr. Kipper told me that he understood just what I wanted; and I told him if he was in trouble or any questions, to call me by telephone and I would call on him, and I believe I called the next day or so. I kept in touch with the progress of making the scratchers, and finally, about a week later, Mr. Kipper had the two scratchers made. And it was sometime after that I had the photographs made of Defendants’ Exhibit NNNN-1, which is a top view of the 5½-inch scratcher which Mr. Kipper made, mounted in a gauge ring which gauged the outside diameter taken across the free ends of the scratcher wires.

Defendants’ Exhibit NNNN-2 is a top plan view of the scratcher with the gauge ring removed. That

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is the 5½-inch Acme scratcher which Mr. Kipper had made.

Defendants' Exhibit NNNN-3 is a photograph of the same 5½ Acme scratcher with the lens of the camera placed as nearly as it could be directly above one side face, the outer side face or periphery of the 5½-inch scratcher, Acme-type scratcher which Mr. Stuart Kipper had made.

Defendants' Exhibit NNNN-4 is a photograph illustrating the gauge ring which is shown in Defendants' Exhibit NNNN-1, which gauge ring has been placed on top of a ruler with one face of the gauge ring resting directly over the 5-inch mark, that is, the internal diameter of the gauge ring, and the other opposite diameter of the gauge ring [3523] resting on the 15¼-inch mark on the ruler, indicating that the gauge ring was 10¼ inches in diameter.

Defendants' Exhibit NNNN-5 is a more or less three-quarter to plan view of the 3½-inch Acme-type scratcher made by Mr. Stuart Kipper in accordance with Defendants' Exhibits A and A-1.

Defendants' Exhibit NNNN-6 is a photograph illustrating the same 3½-inch Acme-type scratcher mounted in a gauge ring.

* * *

A. Defendants' Exhibit NNNN-7 is a photograph illustrating the gauge ring shown in Defendants' Exhibit NNNN-6. And in Defendants' Exhibit NNNN-7 the gauge ring is mounted on top of

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a ruler, the right-hand side of the gauge ring is mounted so the internal bore of the gauge ring rests on the six-inch mark of the ruler. The opposite diameter of the gauge ring has the periphery thereof placed on the ruler and the point on the ruler is at the $14\frac{1}{4}$ -inch mark, [3524] illustrating or demonstrating that the internal diameter of the gauge ring is $8\frac{1}{4}$ inches in diameter.

Defendants' Exhibit NNNN-8 is a top plan view of the $3\frac{1}{2}$ -inch Acme-type scratcher made by Mr. Stuart Kipper, where the lens of the camera was placed as near over the center of the scratcher as could be located.

Defendants' Exhibit NNNN-9 is a top view of the $3\frac{1}{2}$ -inch Acme-type scratcher made by Stuart Kipper and is a top plan view in which the lens of the camera was placed directly above one side face of the periphery of the scratcher body.

Defendants' Exhibit NNNN-10 is approximately a three-quarter top view and was taken to approximate, as closely as possible, the illustration in the upper right-hand corner of Defendants' Exhibit A, or like the positioning of the scratcher in the illustration as shown in Defendants' Exhibit A-1.

That completes the series of exhibits from Defendants' Exhibit NNNN-1 through NNNN-10.

* * *

Mr. L. E. Lyon: I will offer in evidence Exhibits NNNN-1 to NNNN-10 as explained by the witness.

The Court: Is there objection?

Mr. Scofield: No objection.

The Court: Received in evidence. [3526]

* * *

(Testimony of William A. Doble.)

Mr. L. E. Lyon: A book that was used by Americans in Mexico City then, dealing with the Mexican patent law in [3534] the Mexican courts.

Mr. Scofield: Subject to check, your Honor, I have no objection.

The Court: Very well. It will be received in evidence as Defendants' Exhibit GH. The reporter will copy it into the record.

Mr. L. E. Lyon: I believe I said, "Article 12," all of Article 12. That is Article 12 of Chapter I. Without that the reporter would not be able to find it. The other was Chapter VI.

(The portions of Exhibit GH specified above are in words and figures as follows:)

"Article 12. It is considered that an invention is not original or was not original on a given date:

"I. If it has been previously covered by an existing Mexican patent.

"II. If it has been previously covered by some foreign patent or by a Mexican patent that has already expired.

"III. If it has previously received sufficient publicity, through a printed Mexican or foreign publication, to be put into execution.

"IV. If it has been previously exploited commercially or industrially in the country or [3535] abroad.

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“In the cases covered by Sections II, III and IV, it shall be considered that the invention has become public property in Mexico.

* * *

“CHAPTER VI

“Extraordinary examination of patent to determine novelty.

“Article 75. The Secretariat of National Economy shall, ex officio or at the request of any person or by a judicial order, and as regards a patent issued in Mexico which is still in force, make a special examination of the patent to ascertain its absolute novelty, in order to determine whether the patent does not come under any of the conditions specified in Article 12 of this Law.

“Article 76. The examination to determine novelty shall also be made ex officio at the request of any person or by a judicial order in the following cases:

“I. To determine whether a particular invention is patented in Mexico.

“II. To determine whether a certain object is novel or not, in accordance with Article 12, and, therefore, whether it is public property or not.

“Article 77. The special examination to [3536] determine novelty must be petitioned in writing, the application being filed in duplicate, and be accompanied by a detailed description of the invention

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and the necessary designs in order to make it understood, it being stressed which are the essential points to be examined. If the examination to determine the novelty of a Mexican patent should be requested, it shall suffice for the petition to state the kind and number.

“Article 78. The special examination to determine novelty referred to in the foregoing Articles shall be subject to the charges specified in the Tariff, and whenever such examination is made due to a judicial ruling, the charges shall be payable by the party who is interested in having the examination made. An examination may be made as many times as may be necessary provided elements of proof not taken into account in previous examinations are submitted or examined with the proviso as regards the effects of a declaration of lack of novelty provided for in the last part of Section III of Article 93 of this Law.

“Article 79. Proofs presented to establish the lack of novelty of an invention shall consist preferably of printed publications which clearly set forth the date on which said publication was made. [3537]

“Article 80. The printed publications made by foreign countries of their patents shall be considered as embraced within Section III of Article 12, and in order that they may be taken into account as references for the invention under examination, it shall suffice that same appear as mentioned in the description or shown in the designs, even though

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it may not be the principal object of the foreign patent.

“Article 81. Foreign printed publications to be found in the Archives or Library of the Secretariat of National Economy, received through official channels or direct from the Patent Offices in foreign countries, shall constitute proof without the necessity of legalization.

“Article 82. The result of the examination as to novelty shall be communicated to the petitioner in writing by the Secretariat of National Economy, the holder of the patent being also notified, even though he may not have requested the examination. The administrative resolution making known the result of the examination shall take immediate effect.

“Article 83. The resolution referred to in the preceding Article shall also mention similar patents discovered and the references or indications which are deemed pertinent. It shall be published [3538] in ‘Gazette of Industrial Property’ and, in cases where absolute priority is found, the publication shall contain a simple statement of the invention, the number of the patent and the resolution handed down. Where no prior patents are found or when same are incomplete, the design of the patent and an extract of the description shall also be published. The party concerned shall pay the cost of the electrotype required for such publication.”



